Australian Capital Territory

Radiation Act 1983

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About this republication

The republished law

This is a republication of the *Radiation Act 1938* effective 9 December 1998 to 11 September 2001.

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Australian Capital Territory

RADIATION ACT 1983

This consolidation has been prepared by the ACT Parliamentary Counsel's Office

Updated as at 9 December 1998

TABLE OF PROVISIONS

Section

TABLE OF PROVISIONS—continued

Section

SCHEDULE 1
MAXIMUM PERMISSIBLE CONCENTRATION FOR
RADIOACTIVEMATERIAL IN AIR AND WATER

SCHEDULE 2
QUALITY FACTORS

SCHEDULE 3
MAXIMUM ACTIVITY OF EXEMPT
RADIONUCLIDES
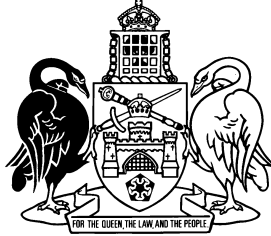
Radiation Act 1983

Australian Capital Territory

RADIATION ACT 1983

An Act to provide for the safe use, transportation and disposal of radioactive materials and irradiating apparatus and for related purposes

PART I—PRELIMINARY

1. Short title

This Act may be cited as the *Radiation Act 1983*.[1]

2.[1] Commencement

(**1**) This section and section 1 shall come into operation on the day on which this Act is notified in the *Gazette*.

(**2**) The remaining provisions of this Act shall come into operation on such date as is, or such dates as respectively are, fixed by the Minister of State for Territories and Local Government by notice in the *Gazette*.

3. Repeal

The *Fluoroscopes Ordinance 1958* is repealed.

5. Interpretation

(**1**) In this Act, unless the contrary intention appears—

"absorbed dose", in relation to irradiated matter, means the quantity of energy imparted to the matter by ionizing radiation per unit mass of the matter;

"activity" means the number of nuclear transformations that occur per unit time in a quantity of a radionuclide;

"alpha particle" means a particle which is composed of 2 protons and 2 neutrons and which is emitted spontaneously by a radionuclide in the process of radioactive decay;

"beta particle" means an electron which is emitted spontaneously by a radionuclide in the process of radioactive decay;

"Chairperson" means the Chairperson of the Council;

"Council" means the Radiation Council established by section 7;

"Deputy Chairperson" means the Deputy Chairperson of the Council;

"determined fee" means the fee determined pursuant to section 77 for the purposes of the provision in which the expression appears;

"dose equivalent", in relation to a person, means the product, expressed in millisieverts, of the absorbed dose in relation to that person and the quality factor of the type of radiation involved;

"dose equivalent limit" means—

    (a) where a person, being a radiation worker, is exposed to radiation for a calendar year—50 millisieverts; and

    (b) where a person other than a radiation worker is exposed to radiation for a calendar year—5 millisieverts;

"electron" means a particle having a specific mass and which is positively or negatively charged;

"gamma ray" means electromagnetic radiation emitted spontaneously by a radionuclide in the process of radioactive decay;

"identity card" means an identity card issued under section 18A;

"inspector" means an inspector under section 18;

"irradiating apparatus" means an instrument or apparatus containing material or equipment which emits, or is capable of emitting, ionizing radiation, not being—

    (a) an instrument or apparatus from which the dose equivalent to a person when situated at a distance of 0.1 metre from the external surface of the instrument or apparatus does not exceed, even under worst case or fault conditions, 1 microsievert per hour;

(b) an instrument or apparatus in which electrons are accelerated to an energy not exceeding 5,000 volts; or

(c) an instrument or apparatus embodying a cathode ray tube from which the dose equivalent to a person when situated at a distance of 5 centimetres from the external surface of the instrument or apparatus does not exceed, even under worst case or fault conditions, 5 microsieverts per hour;

"licence" means a licence granted under this Act;

"licensed premises" means the premises specified in a licence as the premises to which the licence relates;

"licensee" means the holder of a licence;

"maximum permissible concentration", in relation to a radioactive material specified in Column 1 of Schedule 1, means—

(a) where the material is present in air and the person exposed to the concentration of the material is a radiation worker—the concentration of the radioactivity of that material specified in Column 2 of Schedule 1 opposite to the reference to the material in Column 1 of that Schedule;

(b) where the material is present in air and a person other than a radiation worker is exposed to the concentration of the material—the concentration of the radioactivity of that material that is equal to one-tenth of the concentration specified in Column 2 of Schedule 1 opposite to the reference to the material in Column 1 of that Schedule; and

(c) where the material is present in potable water and any person is exposed to the concentration of the material—the concentration of the radioactivity of that material specified in Column 3 of Schedule 1 opposite to the reference to the material in Column 1 of that Schedule;

"member" means a member of the Council and includes the Chairperson;

"neutron" means a particle which has no electric charge and has a mass slightly greater than that of the proton;

"nuclide" means a species of atom having specific numbers of neutrons and protons in its nucleus;

"package" includes a pack, packet, parcel, carton, box or closed receptacle of any kind;

"place" and "premises" include a building, ship, aircraft, vehicle and any other premises on land or water and all other land, whether occupied or not;

"proton" means a particle of unit mass number having a charge equal to and opposite to that of an electron;

"quality factor", in relation to a type of radiation, means the factor ascertained in accordance with Schedule 2 in relation to that type of radiation;

"radiation" means—

(a) electromagnetic radiation, being X-rays or gamma rays; or

(b) particulate radiation, being alpha particles, beta particles, electrons, protons, neutrons and heavy particles capable of causing ionization of matter through which they pass;

"radiation hazard" means a danger to health that arises from exposure to radiation levels in excess of the relevant maximum permissible concentrations or dose equivalent limits;

"Radiation Safety Officer" means a person appointed as a Radiation Safety Officer for the purposes of subsection 34 (1);

"radiation worker" means a person who, in the course of employment, is required to use or handle, or assist in the use or handling of, a radioactive material, or to use or operate, or assist in the use or operation of, irradiating apparatus, but does not include a person who handles a radioactive material—

(a) in the course of transport; or

(b) that is contained in a Category I, a Category II or a Category III package;

"radioactive contamination" means the lodgment, attachment or incorporation of a radioactive material on, to or in an organ or tissue of a person or on, to or in any other material;

"radioactive material" means material that consists of or contains a radionuclide;

"radioactive source" means any quantity of radioactive material which is intended for use as a source of ionizing radiation;

"radioactivity" means the spontaneous transformation of a radionuclide into another nuclide or a spontaneous change in energy level of the nucleus of a radionuclide with the emission of ionizing radiation;

"radionuclide" means an unstable nuclide which spontaneously emits ionizing radiation;

"transport" includes load, unload, discharge, stack, stow or store for the purposes of transportation and any act incidental to or arising out of any of those acts;

"transport index", in relation to a package, means the number calculated in accordance with the formula $\dfrac{R}{10}$, where **R** is the maximum level of radiation, expressed in microsieverts per hour, emitted from the package when measured at a distance of 1 metre from the external surface of the package.

"X-ray" means electromagnetic ionizing radiation which is produced by the transitions of electrons between the electron shells of an atom or by the deceleration of electrons in the vicinity of a nucleus.

(2)   For the purposes of this Act—

(a)   a package shall be treated as a Category I package if—

   (i)   the level of the radiation emitted from the package at any time during normal transportation does not exceed 5 microsieverts per hour at any point on the external surface of the package; and

   (ii)   the transport index of the package is less than 0.05;

(b)   a package, other than a package referred to in paragraph (a), shall be treated as a Category II package if—

   (i)   the level of the radiation emitted from the package at any time during normal transportation does not exceed 500 microsieverts per hour at any point on the external surface of the package; and

   (ii)   the transport index of the package is less than 1; and

(c)   a package, other than a package referred to in paragraph (a) or (b), shall be treated as a Category III package if—

   (i)   the level of the radiation emitted from the package at any time during normal transportation does not exceed 2 millisieverts per hour at any point on the external surface of the package; and

      (ii)   the transport index of the package is less than 10.

6.   Exemptions

(1)   Nothing in this Act applies to or in relation to radioactive material if the radioactivity of the material does not exceed—

    (a)   in the case of material specified in Column 1 of an item in Schedule 3—the measure of activity specified in Column 2 of that item; and

    (b)   in any other case—4 kilobecquerels.

(2)   The Council, on application made by a person in possession of radioactive material or irradiating apparatus, may, if it is satisfied that the material or apparatus does not give rise to a radiation hazard, make a declaration accordingly.

(3)   A declaration under subsection (2) shall be in writing signed by the Chairperson.

(4)   While a declaration under subsection (2) is in force, nothing in Part III, IV or VI applies in relation to the material or apparatus specified in the declaration.

(5)   Where the Council is satisfied that any radioactive material or irradiating apparatus in respect of which a declaration under subsection (2) is in force gives rise to a radiation hazard, the Council may revoke the declaration.

PART II—ADMINISTRATION

Division 1—The Radiation Council

7.   Establishment of Council

(1)   For the purposes of this Act, there shall be a Council to be known as the Radiation Council.

(2)   The Council—

    (a)   is a body corporate with perpetual succession;

    (b)   shall have a common seal; and

    (c)   may sue and be sued in its corporate name.

(3)   All courts, judges and persons acting judicially shall take judicial notice of the seal of the Council affixed to a document and shall presume that it was duly affixed.

8.   Membership of Council

(1)   The Council shall consist of—

(a)   a member who is registered as a medical practitioner under the *Medical Practitioners Registration Act 1930* and is a member of the Royal Australasian College of Radiologists;

(b)   a member, being a person with expert knowledge of the physical properties or biological effects of ionizing radiation, nominated by the Australian National University;

(c)   a member, being a person with expert knowledge of the physical properties or biological effects of ionizing radiation, nominated by the Commonwealth Scientific and Industrial Research Organization; and

(d)   2 persons nominated by the Minister.

(2)   The members of the Council shall be appointed by the Minister.

(3)   Subject to this Act, a member of the Council appointed under subsection (2) holds office for such period, not exceeding 3 years, as is specified in the instrument of appointment and is eligible for re-appointment.

(4)   The performance of the functions, or the exercise of the powers, of the Council is not affected by reason only of there being a vacancy or vacancies in the membership of the Council.

9.   Chairperson and Deputy Chairperson of Council

(1)   The Minister shall appoint one of the members to be the Chairperson of the Council.

(2)   The Chairperson may resign the office of Chairperson by signed notice delivered to the Minister.

(3)   The members shall, from time to time, as occasion requires, elect one of their number to be Deputy Chairperson of the Council.

(4)   The Deputy Chairperson holds office for a period of 1 year from the date of election, unless he or she sooner ceases to be a member, and is eligible for re-election.

(5)   The Deputy Chairperson may resign the office of Deputy Chairperson by signed notice delivered to the Chairperson.

10.   Resignation

A member may resign his or her office by signed notice delivered to the Minister.

11. Termination of appointment

(1) The Minister may terminate the appointment of a member by reason of misbehaviour or physical or mental incapacity.

(2) If a member—

(a) becomes bankrupt, applies to take the benefit of any law for the relief of bankrupt or insolvent debtors, compounds with creditors or makes an assignment of remuneration for their benefit; or

(b) is absent, except on leave granted by the Minister, from 3 consecutive meetings of the Council,

the Minister shall terminate the appointment of the member.

12. Acting members

(1) The Minister may, in writing, appoint a person to act as a member of the Council (otherwise than as Chairperson)—

(a) during a vacancy in an office of member, whether or not an appointment has previously been made to the office; or

(b) during any period or during all periods, when a member is absent from duty or from the Territory or, for any other reason, is unable to perform the functions of the office,

but a person appointed to act during a vacancy shall not continue so to act for more than 12 months.

(5) The validity of anything done by a person purporting to act in accordance with this section shall not be called in question on the ground that the occasion for the appointment had not arisen, that there is a defect or irregularity in or in connection with the appointment, that the appointment had ceased to have effect or that the occasion for the person to act had not arisen or had ceased.

13. Meetings

(1) The Chairperson shall convene such meetings of the Council as he or she considers necessary for the performance of its functions, but so that an interval longer than 6 months does not occur between any 2 consecutive meetings.

(2) The Chairperson shall, on receipt of a request in writing signed by not less than 2 members of the Council, convene a meeting of the Council.

(3) The Chairperson shall preside at all meetings of the Council at which he or she is present.

(4)   At a meeting of the Council at which the Chairperson is not present, the Deputy Chairperson shall preside.

(5)   At a meeting of the Council, a quorum is constituted by a majority of the members of the Council for the time being holding office.

(6)   A question arising at a meeting of the Council shall be determined by a majority of votes of the members present and voting.

(7)   The person presiding at a meeting of the Council has a deliberative vote only.

(8)   Subject to this Act, the procedure of the Council shall be as the Council determines.

14.   Protection of members

An action or proceeding, civil or criminal, does not lie against a member of the Council for or in respect of any act or thing done in good faith by the member in his or her capacity as a member.

15.   Council may seek advice

The Council may invite a person to attend a meeting of the Council for the purpose of advising or informing the Council on any matter.

15A.   Report to Minister

Where the Minister gives a written direction to the Chairperson requiring the Council to inquire into and report on a matter, the Council shall provide the Minister with a report on the matter, including a recommendation where appropriate, within the period specified in the direction.

16.   Disclosure of pecuniary interest

(1)   A member who has a direct or indirect pecuniary interest in a matter being considered or about to be considered by the Council shall, as soon as possible after the relevant facts have come to his or her knowledge, disclose the nature of his or her interest at a meeting of the Council.

(2)   A disclosure under subsection (1) shall be recorded in the minutes of the meeting of the Council and the member shall not, unless the Minister or the Council otherwise determines—

    (a)   be present during any deliberation of the Council with respect to that matter; or

    (b)   take part in any decision of the Council with respect to that matter.

(3) For the purposes of the making of a determination by the Council under subsection (2) in relation to a member who has made a disclosure under subsection (1), a member who has a direct or indirect pecuniary interest in the matter to which the disclosure relates shall not—

    (a) be present during any deliberation of the Council for the purpose of making the determination; or

    (b) take part in the making by the Council of the determination.

(4) Where a member fails, without reasonable excuse, to comply with this section, the Minister shall terminate the appointment of the member.

Division 2—Inspectors

17. **Interpretation**

(1) For the purposes of this Division, a thing is connected with a particular offence if it is—

    (a) a thing with respect to which the offence has been committed;

    (b) a thing that will afford evidence of the commission of the offence; or

    (c) a thing that was used, or is intended to be used, for the purpose of committing the offence.

(2) A reference in this Division to an offence shall be read as including a reference to an offence that there are reasonable grounds for believing has been, or is to be, committed.

18. **Inspectors**

(1) There may be 1 or more inspectors for the purposes of this Act.

(2) The Chief Executive shall create and maintain 1 or more offices in the Government Service the duties of which include performing the functions of an inspector.

(3) An inspector shall be any public servant for the time being performing the duties of a Government Service office referred to in subsection (2).

18A. **Identity cards**

(1) The Chief Executive shall issue to an inspector an identity card that specifies the inspector's name and office, and on which appears a recent photograph of the inspector.

(2)   Upon ceasing to occupy, or to act in, the office of inspector, a person shall not, without reasonable excuse, fail to return his or her identity card to the Chief Executive.

Penalty: 1 penalty unit.

19.   Powers of inspectors in relation to licensed premises

(1)   An inspector may, at any reasonable hour of the day or night, with such assistance as he or she thinks necessary, enter upon or into any licensed premises, without the authority of a warrant issued under section 21, for the purpose of ensuring that the provisions of this Act are being complied with.

(2)   An inspector who enters upon or into premises in pursuance of subsection (1) is not authorized to remain on the premises if, on request by or on behalf of the occupier or person in charge of the premises, he or she does not produce his or her identity card.

(3)   An inspector who enters upon or into premises in pursuance of subsection (1) may—

   (a)   conduct such search and inspection of the premises and such inspection of any material or apparatus on the premises as he or she thinks necessary to determine whether there is any contravention of this Act;

   (b)   test any material or apparatus that he or she has reason to believe is radioactive material or irradiating apparatus;

   (c)   inspect any books, records or documents relating to radioactive material, irradiating apparatus or the use of ionizing radiation that are kept on the premises and any books, records or documents that are required by this Act to be kept on the premises;

   (d)   make copies of, or take extracts from, any books, records or documents referred to in paragraph (c);

   (e)   take samples of any material that he or she has reason to believe is radioactive material; and

   (f)   seize any thing that he or she believes on reasonable grounds to be connected with an offence against this Act.

(4)   Where an inspector destroys or damages the property of any person in the course of taking a sample of material under paragraph (3) (e), there is due to the person by the Territory such amount as is necessary to compensate the person for the loss suffered as a result of that destruction or damage.

20.   Powers of entry and seizure

An inspector may enter upon or into premises and may search for and seize any thing that he or she believes on reasonable grounds to be connected with an offence against this Act that is found on the premises if, and only if, the search and seizure is made by the inspector—

(a)   in accordance with section 19;

(b)   in pursuance of a warrant issued under section 21;

(c)   in circumstances of seriousness and urgency, in accordance with section 22; or

(d)   after obtaining the consent of the occupier or the person in charge of the premises.

21.   Search warrants

(1)   Where an information on oath is laid before a Magistrate alleging that there are reasonable grounds for suspecting that there may be upon or in any premises a thing or things of a particular kind connected with a particular offence against a provision of this Act, and the information sets out those grounds, the Magistrate may issue a search warrant authorizing the inspector named in the warrant, with such assistance as he or she thinks necessary and if necessary by force—

(a)   to enter upon or into the premises;

(b)   to search the premises for things of that kind; and

(c)   to seize any thing of that kind found upon or in the premises that he or she believes on reasonable grounds to be connected with that offence.

(2)   A Magistrate shall not issue a warrant under subsection (1) unless—

(a)   the informant or some other person has given to the Magistrate, either orally or by affidavit, such further information (if any) as the Magistrate requires concerning the grounds on which the issue of the warrant is being sought; and

(b)   the Magistrate is satisfied that there are reasonable grounds for issuing the warrant.

(3)   There shall be stated in a warrant issued under this section—

(a)   a statement of the purpose for which the warrant is issued, which shall include a reference to the nature of the offence in relation to which the entry and search are authorized;

(b)   whether entry is authorized to be made at any time of the day or night or during specified hours of the day or night;

(c) a description of the kind of things authorized to be seized; and

(d) a date, not being later than 1 month after the date of issue of the warrant, upon which the warrant ceases to have effect.

(4)   If, in the course of searching, in accordance with a warrant issued under this section, for things connected with a particular offence against this Act, being things of a kind specified in the warrant, an inspector finds any thing that he or she believes on reasonable grounds to be connected with the offence, although not of a kind specified in the warrant, or to be connected with another offence against this Act, and he or she believes on reasonable grounds that it is necessary to seize that thing in order to prevent its concealment, loss or destruction, or its use in committing, continuing or repeating the offence or in committing the other offence, the warrant shall be deemed to authorize the seizure.

22.   Searches in emergencies

(1)   An inspector may enter upon or into any premises on or in which he or she believes on reasonable grounds that any thing connected with an offence against this Act is situated and may seize any such thing found upon or in the premises if—

(a) the inspector believes on reasonable grounds that it is necessary to do so in order to prevent the concealment, loss or destruction of any thing connected with an offence against this Act; and

(b) the entry is made in circumstances of such seriousness and urgency as to require and justify immediate search or entry without the authority of a warrant issued under section 21.

(2)   An inspector who enters upon or into premises in pursuance of subsection (1) is not authorized to remain on the premises if, on request by or on behalf of the occupier or persons in charge of the premises, he or she does not produce his or her identity card.

23.   Consent to entry

(1)   Before obtaining the consent of a person for the purposes of section 20, an inspector shall inform the person that he or she may refuse to give that consent.

(2)   An inspector who obtains the consent of a person for the purposes of section 20 shall ask the person to sign a written acknowledgment—

(a) of the fact that he or she has been informed that he or she may refuse to give that consent;

(b) of the fact that he or she has voluntarily given that consent; and

(c) of the date on which, and the time at which, he or she gave that consent.

(3) An entry by an inspector by virtue of the consent of a person is not lawful unless the person voluntarily consented to the entry.

(4) Where it is material, in any proceedings, for a court to be satisfied of the voluntary consent of a person for the purposes of section 20 and an acknowledgment, in accordance with subsection (2), signed by the person is not produced in evidence, the court shall assume, unless the contrary is proved, that the person did not voluntarily give such a consent.

24. Obstruction of inspector

A person who, without reasonable excuse—

(a) obstructs or delays an inspector in the exercise of his or her powers under this Act; or

(b) fails to comply with a reasonable requirement of an inspector who has entered upon or in any premises in pursuance of this Act,

is guilty of an offence punishable, on conviction—

(c) for contravention of paragraph (a)—

(i) if the offender is a natural person—by a fine not exceeding 50 penalty units or imprisonment for a period not exceeding 6 months, or both; or

(ii) if the offender is a body corporate—by a fine not exceeding 250 penalty units; or

(d) for contravention of paragraph (b)—

(i) if the offender is a natural person—by a fine not exceeding 50 penalty units; or

(ii) if the offender is a body corporate—by a fine not exceeding 250 penalty units.

PART III—RADIATION SAFETY

25. Exemptions

(1) Nothing in this Part applies to or in relation to—

(a) the possession or use of a radioactive material or irradiating apparatus by a person who is undergoing a diagnostic procedure or who is

      receiving therapeutic treatment, being a procedure or treatment involving the use of that material or apparatus;

(b)   the possession or use by the keeper of an animal of radioactive material in connection with veterinary treatment being administered to that animal; or

(c)   the use of radioactive material or irradiating apparatus by a person who is a student at an educational establishment and who is using that material or apparatus under the direction and supervision of a person who is the holder of a licence authorizing the use of that material or apparatus.

(2)   Section 26 does not apply to or in relation to—

(a)   the use of radioactive material or irradiating apparatus by a Radiation Safety Officer appointed in pursuance of subsection 34 (1);

(b)   the use of radioactive material or irradiating apparatus by a person acting under the direction and supervision of another person who is the holder of a licence authorizing the use of that material or apparatus; or

(c)   the possession of radioactive material by a person, other than the consignor of that material, who is engaged in the transportation of that material in accordance with the provisions of Part V.

26.   Certain activities prohibited except in accordance with licence

(1)   Subject to this Act, a person shall not sell, let on hire, manufacture, own, purchase, have in possession, use or cause or permit to be used radioactive material except in accordance with a licence granted under this Part in relation to that material.

(2)   A person shall not sell, let on hire, manufacture, own, purchase, have in possession, use or cause or permit to be used irradiating apparatus except in accordance with a licence granted under this Part in relation to that apparatus or in relation to a class of apparatus that includes that apparatus.

(3)   A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a)   in the case of a body corporate—500 penalty units; and

(b)   in the case of a natural person—100 penalty units or by imprisonment for a period not exceeding 1 year, or both.

27. Effect of licence

(1) Subject to this Part, a licence granted in relation to radioactive material specified in the licence authorizes the licensee to do such of the following acts as are specified in the licence:

    (a) to sell, let on hire or purchase that radioactive material;

    (b) to manufacture, own or have in possession, at the premises specified in the licence, that radioactive material;

    (c) to use, or cause or permit to be used, at the premises specified in the licence, that radioactive material for the purpose, and in the manner (if any), specified in the licence.

(2) Subject to this Part and to Part IV, a licence granted in relation to an irradiating apparatus, or to a class of irradiating apparatus, specified in the licence authorizes the licensee:

    (a) to sell, let on hire or purchase that irradiating apparatus or an irradiating apparatus included in that class;

    (b) to manufacture, own or have in possession, at the premises specified in the licence, that irradiating apparatus or an irradiating apparatus included in that class;

    (c) to use, or cause or permit to be used, at the premises specified in the licence, that irradiating apparatus or an irradiating apparatus included in that class for the purpose, and in the manner (if any), specified in the licence.

28. Application for licence

An application for a licence is not duly made unless—

    (a) the application is in writing;

    (b) the application is signed by the applicant;

    (c) the application is lodged with the Chairperson; and

    (d) the determined fee is paid.

29. Grant of licence

(1) Where an application for a licence has been duly made, the Chairperson shall refer the application to the Council and, if the Council is satisfied that—

    (a) the applicant is a fit and proper person to hold the licence;

    (b) the applicant has made, or proposes to make, arrangements that are reasonably adequate to prevent the creation of a radiation hazard and

to prevent an unauthorized person gaining access to the material or apparatus in respect of which the licence is sought; and

(c) where the applicant intends to use the material or apparatus in respect of which the licence is sought—the applicant holds a prescribed qualification,

the Council shall grant the licence sought by the applicant.

(2)   Where the Council grants a licence under this Part, the Chairperson shall, if required to do so by the Council, notify the Fire Commissioner of the name and address of the licensee, the address of the licensed premises and particulars of the radioactive material or irradiating apparatus in respect of which the licence is granted.

(3)   In this section, "prescribed qualification" means a qualification declared by the Minister, by notice in the *Gazette*, to be a prescribed qualification for the purposes of this section.

30.   Conditions of licence

(1)   A licence is subject to such conditions (if any) as are specified in the licence.

(2)   The conditions that may be specified in a licence are such conditions as are reasonable and necessary for the protection of persons handling or using the material or apparatus to which the licence relates or of persons employed to work at the licensed premises or of any other persons.

(3)   The Council may at any time vary the conditions specified in a licence in such manner as the Council considers reasonable and necessary for the protection of persons handling or using the material or apparatus to which the licence relates or of persons employed to work at the licensed premises or of any other persons.

31.   Duration of licence

(1)   Subject to this Act, a licence granted under section 29 shall remain in force for such period, not exceeding 5 years, as is specified in the licence and may be renewed in accordance with this section.

(2)   Where before the expiration of the period referred to in subsection (1), or the last period of renewal, the holder of the licence pays the determined fee, the licence shall be renewed for such further period as the Council determines not exceeding 5 years commencing on the expiry of the first-mentioned period or of the last period of renewal, as the case requires.

32.   Cancellation of licence

(1)   Subject to this section, the Council may cancel a licence where—

(a) the licensee has contravened, or failed to comply with, a condition of the licence; or

(b) it is necessary, in the interest of the safety of members of the public, that the licence be cancelled.

(2)   The Council shall not cancel a licence under subsection (1) unless it has given to the licensee a notice in writing that—

(a) specifies the ground upon which the Council intends to cancel the licence;

(b) states the facts and circumstances that, in the opinion of the Council, constitute that ground; and

(c) informs the licensee that he or she may, within a period of 28 days from the date of the notice, by writing given to the Council, place before the Council any matters in answer to the matters stated in the notice.

(3)   For the purpose of deciding whether to exercise its power under subsection (1), the Council shall have regard to any matter placed before it in accordance with a notice given in pursuance of subsection (2).

(4)   Where the Council cancels a licence under this section, the cancellation takes effect on the date on which notice is given to the licensee in pursuance of section 73.

33.   Records to be kept

(1)   A licensee shall keep in a register on the licensed premises a record specifying all radioactive materials and irradiating apparatus that come into his or her possession and describing the use to which those radioactive materials or that apparatus are put and any change in that use.

(2)   A licensee who employs radiation workers, or the person in charge of licensed premises where radiation workers are employed, shall keep on the licensed premises a record in a form approved by the Council showing—

(a) the full name, address, age and sex of each radiation worker;

(b) the date of commencement of the employment of each radiation worker;

(c) the date from which, and the periods during which, each radiation worker has been, or may have been, exposed to ionizing radiation;

(d) the details of all calculations of the dose of ionizing radiation received by each radiation worker; and

(e) all facts known to the licensee or person relating to any accidental dose of ionizing radiation that may have been received by a radiation worker.

(3) A person who contravenes subsection (1) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—100 penalty units; and

(b) in the case of a natural person—20 penalty units.

(4) A person who contravenes subsection (2) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—50 penalty units; and

(b) in the case of a natural person—10 penalty units.

34. Duties of licensees in relation to radioactive material etc.

(1) A licensee who has in his or her possession any radioactive material or irradiating apparatus—

(a) may appoint a person to be the Radiation Safety Officer in respect of the licensed premises and all radioactive materials and irradiating apparatus in his or her possession;

(b) shall give to the Chairperson—

(i) within 24 hours after first coming into possession of a radioactive material or an irradiating apparatus; and

(ii) as soon as is reasonably practicable after the appointment of a Radiation Safety Officer,

notice in writing of the residential address and telephone number (if any) of the licensee and the residential address and telephone number (if any) of the person appointed as Radiation Safety Officer; and

(c) shall forward a copy of every report and recommendation of the Radiation Safety Officer to the Chairperson within 24 hours of the receipt by the licensee of the report or recommendation.

(2) A person who contravenes paragraph (1) (b) or (c) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—25 penalty units; and

(b) in the case of a natural person—5 penalty units.

(3) Where a Radiation Safety Officer is not appointed, or during the absence from licensed premises of the Radiation Safety Officer, this Act, other than paragraphs 39 (1) (e) and (f), applies as if the licensee were the Radiation Safety Officer.

35. Other duties of licensees

(1) A licensee shall—

   (a) take reasonable steps to ensure that every person under his or her supervision or control complies with the requirements of this Act;

   (b) by means of doors, bars, locks or warning or cautionary notices, signs or lights, prohibit the access of unauthorized persons to all parts of the licensed premises in which they may be subjected to ionizing radiation;

   (c) immediately upon becoming aware that radioactive material in his or her possession or under his or her control has been damaged, lost or involved in an accident or fire, immediately notify the Chairperson or an inspector of the fact by telegram, telephone or personal communication and confirm that notification in writing as soon as is reasonably practicable;

   (d) carry out all instructions that the Chairperson or an inspector gives consequent upon a notification under paragraph (c); and

   (e) take reasonable steps to ensure that the concentrations of radioactive material in air and potable water in the licensed premises, when averaged over a period of 7 days, do not exceed the relevant maximum permissible concentrations.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

   (a) in the case of a body corporate—100 penalty units; and

   (b) in the case of a natural person—20 penalty units.

36. Measurement of ionizing radiation on premises

(1) A licensee who employs radiation workers shall—

   (a) carry out, or cause to be carried out, at the times and in the manner required by the Council, measurements of ionizing radiation in and around the licensed premises and in air and water discharged from the licensed premises;

   (b) provide and maintain for each radiation worker such instruments, apparatus, devices or accessories as the Council requires for the

purpose of measuring the amount of ionizing radiation to which a radiation worker is or has been exposed; and

(c) instruct those workers, or cause those workers to be instructed, in the method of using those instruments, apparatus, devices or accessories.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—100 penalty units; and

(b) in the case of a natural person—20 penalty units.

37. Maximum doses of radiation

(1) A licensee or the person in charge of any part of licensed premises where radioactive material or irradiating apparatus is used shall take reasonable steps to ensure that a person on the licensed premises or that part of those premises—

(a) does not receive a radiation dose in excess of the relevant dose equivalent limit; and

(b) is not exposed to a concentration of radioactive material in air or potable water in excess of the relevant maximum permissible concentration.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—250 penalty units; and

(b) in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

38. Excessive doses to be reported

(1) A licensee who employs radiation workers or a person in charge of any part of licensed premises in which radioactive material or irradiating apparatus is used—

(a) who has reasonable grounds for suspecting that a person has received (other than as a patient undergoing a diagnostic procedure or receiving therapeutic treatment) a dose equivalent in excess of 2,000 microsieverts in a period of 1 month or that some unusual occurrence has taken place in or about a source of ionizing radiation; or

(b) who becomes aware that a personal monitoring device has recorded in respect of a person a dose equivalent exceeding 2,000 microsieverts in a period of 1 month,

shall report the fact to the Chairperson forthwith.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

    (a) in the case of a body corporate—50 penalty units; and

    (b) in the case of a natural person—10 penalty units.

39. Duties of radiation safety officer

(1) A Radiation Safety Officer shall—

    (a) as soon as practicable after having been appointed to be the Radiation Safety Officer by a licensee, investigate and record all radioactive sources on the licensed premises;

  (ab) record each radioactive source that comes onto or leaves the licensed premises;

    (b) assess and record any matters in relation to the licensed premises that in his or her opinion may result in an accident or an emergency involving ionizing radiation;

    (c) prepare and record appropriate procedures for dealing with an accident or an emergency on the licensed premises involving ionizing radiation and take all reasonable steps to ensure that any apparatus, instruments, devices or accessories required for the purpose of carrying out those procedures are readily available for that purpose;

    (d) from time to time assess and record the reasonable likelihood of any person being exposed to ionizing radiation in excess of the relevant dose equivalent limit from any radioactive material or irradiating apparatus on the licensed premises or from the use of that material or apparatus;

    (e) prepare, within 28 days of appointment, and thereafter at intervals not exceeding 12 months, a report—

        (i) recommending the safe working procedures that should be adopted for work on the licensed premises in connection with radioactive material or irradiating apparatus; and

        (ii) recommending, if necessary, the installation or use of facilities for the purpose of minimizing the absorbed dose that each person may receive;

    (f) provide a copy of each report made under paragraph (e) to the employer of each person working in the place to which the report relates who may be subjected to ionizing radiation and, where the employer and the licensee are different persons, to the licensee;

(g) take reasonable steps to ensure that all persons likely to be subjected to ionizing radiation on the licensed premises are adequately instructed in the use of all safeguards and safety procedures and are supplied with such apparatus, clothing, instruments, shields, devices or accessories as are necessary for the protection of those persons from ionizing radiation;

(h) take reasonable steps to ensure that persons on the licensed premises not engaged in work involving the use or handling of irradiating apparatus or radioactive material are not subject to ionizing radiation (other than that naturally occurring) exceeding 100 microsieverts per week;

(i) take reasonable steps to ensure that no radioactive material is removed from the licensed premises in contravention of this Act;

(j) if he or she becomes aware of the existence on the licensed premises of any ionizing radiation from a source not under his or her control— report the matter in writing immediately to the licensee and to the Chairperson;

(k) take reasonable steps to ensure that all persons employed on the licensed premises carry out all such procedures and do all such acts as will ensure the safe performance of their work;

(l) take reasonable steps to ensure that each radioactive source on the licensed premises is held in a safe and secure place when not in use;

(la) at least once in each calendar month, check all radioactive sources on the licensed premises against the records kept in pursuance of paragraphs (a) and (ab) and, where there is a discrepancy, report the matter immediately to the licensee and to the Chairperson;

(m) take reasonable steps to ensure that all apparatus, instruments, devices, clothing, shields and accessories used for the protection of persons from ionizing radiation or for the detection and measurement of ionizing radiation, absorbed doses and dose equivalents and of radioactive contamination are maintained in good working condition and are properly used; and

(n) if he or she becomes aware that any person has been, or may have been exposed to ionizing radiation in excess of the relevant dose equivalent limit—report the matter immediately to the licensee and to the Chairperson.

(2) Where a Radiation Safety Officer is required to make a record of any matter in pursuance of subsection (1), that officer shall keep that record on the licensed premises.

(3) A Radiation Safety Officer who contravenes subsection (1) or (2) is guilty of an offence punishable, on conviction, by a fine not exceeding—

    (a) in the case of a contravention of subsection (1)— 20 penalty units; and

    (b) in the case of a contravention of subsection (2)— 5 penalty units.

40.   **Radiation workers to observe safety procedures**

A radiation worker shall use in a proper manner all apparatus, instruments, devices, clothing, shields and accessories supplied for his or her protection and shall observe all procedures laid down by the Radiation Safety Officer appointed for the premises in which the worker is employed to work.

Penalty: 10 penalty units.

41.   **Use of measuring instruments etc.**

A radiation worker using or handling radioactive material or an irradiating apparatus shall, while doing so or while in the vicinity of radioactive material or an irradiating apparatus, carry attached to his or her person or clothing such instrument, apparatus, device or accessory as shall have been provided in accordance with paragraph 36 (1) (b).

Penalty: 10 penalty units.

42.   **Medical examinations**

(1) The Council may, if it has reasonable cause to believe that a licensee, a Radiation Safety Officer or a radiation worker has been, or may have been, exposed to ionizing radiation in excess of the relevant dose equivalent limit, require that licensee, Radiation Safety Officer or radiation worker to submit to such medical examination as the Council specifies.

(2) A person required to submit to a medical examination under subsection (1) shall not, without reasonable excuse, refuse or fail to comply with the requirement.

Penalty: 10 penalty units.

(3)   Where a person submits to a medical examination in accordance with a requirement of the Council under subsection (1), the person shall pay any fees or costs payable in respect of the medical examination.

43.   Persons receiving dose exceeding dose equivalent limit not to perform certain work

(1)   Where a radiation worker has been exposed to radiation in excess of the relevant dose equivalent limit, the Council may direct the licensee or other person who employs the worker not to require the worker, during such period as the Council specifies, to perform any work in which the worker will or may be exposed to ionizing radiation.

(2)   A person shall not, without reasonable excuse, refuse or fail to comply with a direction given under subsection (1).

(3)   A person who contravenes subsection (2) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a)   in the case of a body corporate—250 penalty units; and

(b)   in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

44.   Direction by Council

(1)   Where there are reasonable grounds for believing that there will be a serious risk to the health of a radiation worker who continues to be exposed to ionizing radiation, the Council may direct the licensee or other person who employs the worker not to require the worker to perform further work which may expose him or her to ionizing radiation.

(2)   A person shall not, without reasonable excuse, refuse or fail to comply with a direction given under subsection (1).

(3)   A person who contravenes subsection (2) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a)   in the case of a body corporate—250 penalty units; and

(b)   in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

45.   Radiation workers to provide information on previous employment

A person who is employed as a radiation worker shall, immediately before commencing to work as a radiation worker, forward to his or her employer a written statement setting out particulars of any other employment undertaken as a radiation worker.

Penalty: 5 penalty units.

46.   Matters to be considered in calculating dose

(1)   In calculating for the purposes of this Act the dose of ionizing radiation received by a person—

(a)   doses received by a person from any radioactive source or irradiating apparatus shall be counted; and

(b)   doses received by a person in undergoing a diagnostic procedure or in receiving therapeutic treatment or doses received as the result of exposure to naturally occurring radiation shall not be counted.

(2)   If the dose to a person accumulated by that person during any part of a calendar year is not known, it shall be assumed, for the purpose of subsection (1), that the person has received during the whole of that calendar year a dose equal to 365 times the average daily dose calculated from the part of the calendar year for which the person's dose is known.

PART IV—REGISTRATION OF IRRADIATING APPARATUS

47.   Irradiating apparatus to be registered

(1)   A person, other than an employee acting in the course of employment, shall not use, or cause or permit to be used, an irradiating apparatus unless the apparatus is registered under this Part.

(2)   A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a)   in the case of a body corporate—500 penalty units; and

(b)   in the case of a natural person—100 penalty units or imprisonment for a period not exceeding 1 year, or both.

48.   Registration of apparatus

(1)   Subject to this Act, a person who acquires possession of any irradiating apparatus for a purpose other than the sale or letting on hire of the apparatus shall, within 7 days after so acquiring possession, make application in writing to the Council for the registration of that irradiating apparatus.

(2)   An application under subsection (1) shall be lodged with the Chairperson.

(3)   Upon receipt of an application under subsection (1), the Chairperson shall refer the application to the Council.

(4) For the purposes of subsection (1), a person who, at the commencement of this section, is in possession of irradiating apparatus shall be taken to have acquired possession of the apparatus at that commencement.

(5) If the Council is satisfied that—

(a) the irradiating apparatus in respect of which an application has been made under subsection (1) is in such a condition that it may be operated with safety;

(b) the apparatus is suitable for the use proposed;

(c) the location and installation of the apparatus are appropriate;

(d) the apparatus is adequately protected and, if shielding of the apparatus or of the room or place in which it is installed is necessary, the apparatus, room or place is adequately shielded; and

(e) the determined fee has been paid;

the Council shall register the irradiating apparatus.

(6) A person who contravenes subsection (1) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—250 penalty units; and

(b) in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

49. Certificate to be issued and displayed

(1) The Council shall issue a certificate of registration in respect of each item of irradiating apparatus that is registered.

(2) A person to whom a certificate of registration is issued shall display the certificate in a prominent position on or near the irradiating apparatus to which it relates.

(3) A person who contravenes subsection (2) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—25 penalty units; and

(b) in the case of a natural person—5 penalty units.

50. Duration of registration

(1) Subject to this Act, the registration of an item of irradiating apparatus shall remain in force for such period, not exceeding 5 years, as is specified in the certificate and may be renewed in accordance with this section.

(2) Where before the expiration of the period referred to in subsection (1), or the last period of renewal, the person to whom the certificate of registration was issued pays the determined fee, the registration shall be renewed for such further period as the Council determines, which period shall not exceed 5 years and shall commence on the expiry of the first-mentioned period or of the last period of renewal, as the case requires.

51.   Apparatus not to be altered or modified

(1)   A person shall not, without the approval of the Council—

(a)   alter or modify, in a material particular, any registered irradiating apparatus; or

(b)   alter, in a material particular, the location, installation or shielding of any registered irradiating apparatus.

(2)   A person who contravenes subsection (1) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a)   in the case of a body corporate—500 penalty units; and

(b)   in the case of a natural person—100 penalty units.

(3)   The Council shall not approve an alteration to, or modification of, any registered irradiating apparatus unless the Council is satisfied that the apparatus, if it had been so altered or modified when the application for the registration of the apparatus was made, could have been registered in accordance with section 48.

(4)   The Council shall not approve an alteration to the location, installation or shielding of any registered irradiating apparatus unless the Council is satisfied that the apparatus, if it had been so located, installed or shielded when the application for the registration of the apparatus was made, could have been registered in accordance with section 48.

52.   Cancellation of registration

(1)   If the Council is satisfied that—

(a)   any registered irradiating apparatus has been altered or modified, or the location, installation or shielding of any registered irradiating apparatus has been altered, contrary to subsection 51 (1); or

(b)   any registered irradiating apparatus is in a dangerous condition or requires repair or modification,

the Council may cancel the registration of the apparatus and require the person in possession of the apparatus to deliver to the Chairperson the certificate of registration.

(2) A person shall not, without reasonable excuse, refuse or fail to comply with a requirement of the Council under subsection (1).

(3) A person who contravenes subsection (2) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—25 penalty units; and

(b) in the case of a natural person—5 penalty units.

(4) The Council shall not cancel the registration of an irradiating apparatus under subsection (1) unless it has given the person to whom the certificate of registration was issued a notice in writing that—

(a) specifies the ground upon which the Council intends to cancel the registration;

(b) states the facts and circumstances that, in the opinion of the Council, constitute that ground; and

(c) informs the person that he or she may, within a period of 28 days from the date of the notice, by writing given to the Council, place before the Council any matters in answer to the matters stated in the notice.

(5) For the purpose of deciding whether to exercise its power under subsection (1), the Council shall have regard to any matter placed before it in accordance with a notice given in pursuance of subsection (3).

(6) Where the Council cancels a registration under this section, the cancellation takes effect on the date on which notice is given in pursuance of section 73 to the person to whom the certificate of registration was issued.

PART V—TRANSPORTATION OF RADIOACTIVE MATERIALS

53. **Interpretation**

In this Part—

"exempt material" means radioactive material in respect of which there is in force a declaration made by the Council under section 54;

"special form radioactive material" means radioactive material that is—

(a) in an indispersable solid form that has at least 1 dimension measuring not less than 5 millimetres; or

(b) contained within a sealed capsule that has at least 1 dimension measuring not less than 5 millimetres and that cannot be opened except by destroying the capsule.

54. **Exempt material**

(1) The Council may, on application made by a person in possession of radioactive material, if it is satisfied that—

(a) the material does not give rise to a radiation hazard during normal transportation; or

(b) that the material does not give rise to a radiation hazard during transportation in accordance with conditions specified by the Council,

declare the material to be exempt material for the purposes of this Part.

(2) A declaration under subsection (1) may be made subject to such conditions as to the transportation of the material specified in the declaration as the Council thinks fit.

(3) Where a declaration under subsection (1) is made subject to conditions as to the transportation of the material specified in the declaration, a person shall not transport that material except in accordance with those conditions.

(4) A person who contravenes subsection (3) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—250 penalty units; and

(b) in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

(5) A declaration under subsection (1) shall be in writing signed by the Chairperson.

(6) Where the Council is satisfied that any radioactive material in respect of which a declaration is in force under subsection (1)—

(a) gives rise to a radiation hazard during normal transportation; or

(b) gives rise to a radiation hazard during transportation in accordance with conditions specified in the declaration,

the Council may revoke the declaration.

55. **Transportation of radioactive material**

(1) A person shall not transport a radioactive material, other than exempt material, unless—

(a) the material is enclosed within a Category I, a Category II or a Category III package, the smallest overall external dimension of which measures not less than 10 centimetres;

(b) where the material is in liquid form—the material is enclosed within a separate inner container that is enclosed within a package referred to in paragraph (a) and surrounded with sufficient absorbent material to ensure that, if the container is broken in the course of transportation—

    (i) the radioactive material will be completely absorbed by the absorbent material; and

    (ii) the level of radioactivity at any point on the external surface of the package is not more than 2 millisieverts per hour; and

(c) the material is transported in accordance with the requirements of this Part.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—250 penalty units; and

(b) in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

56. Limits on contents of packages

(1) Except with the written approval of the Chairperson, a person shall not pack in a Category I, a Category II or a Category III package a radioactive material if—

(a) in the case of a special form radioactive material consisting of or containing a radionuclide the symbol of which is specified in Column 1 of Schedule 4—the radioactivity of the substance is more than the level specified in Column 2 of that Schedule opposite the symbol so specified; and

(b) in the case of a radioactive material consisting of or containing a radionuclide the symbol of which is specified in Column 1 of Schedule 4 that is not a special form radioactive material—the radioactivity of the material is more than the level specified in Column 3 of that Schedule opposite the symbol so specified.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—250 penalty units; and

(b) in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

57. Packages to be separated from members of public etc.

(1) A person who has in possession or under his or her control a Category II or a Category III package, or a group of such packages, having a transport index, or a total of transport indexes, within a range of transport indexes specified in Column 1 of Schedule 5 shall ensure that, in the course of transportation or when stored in a place for the purposes of transportation, the package or group of packages is kept in a place that is separated from—

(a) living accommodation;

(b) regularly occupied working places; and

(c) places to which passengers or members of the public have access,

by a distance not less than the distance specified in Column 2 of that Schedule opposite that range of transport indexes.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—250 penalty units; and

(b) in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

58. Groups of packages

A person who has in possession or under his or her control a group or groups of Category II or Category III packages shall ensure that, in the course of transportation or when stored for the purposes of transportation—

(a) the total of the transport indexes of the packages in that group or in each of those groups is not more than 50; and

(b) each group of such packages is kept separated from each other group of such packages by a distance of at least 6 metres.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—250 penalty units; and

(b) in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

59.   Labelling of packages

(1)   A person shall not consign for transportation a Category I package unless there is affixed to each of 2 external surfaces of the package a label which shall—

   (a)   conform with Figure 1 in Schedule 6;

   (b)   comply with the colour and other requirements indicated in that Schedule for that Figure; and

   (c)   contain details of the principal radioactive content of the package and the activity of that content.

(2)   A person shall not consign for transportation a Category II package unless there is affixed to each of 2 external surfaces of the package a label which shall—

   (a)   conform with Figure 2 in Schedule 6;

   (b)   comply with the colour and other requirements indicated in that Schedule for that Figure; and

   (c)   contain details of the transport index of the package, the principal radioactive content of the package and the activity of that content.

(3)   A person shall not consign for transportation a Category III package unless there is affixed to each of 2 external surfaces of the package a label which shall—

   (a)   conform with Figure 3 in Schedule 6;

   (b)   comply with the colour and other requirements indicated in that Schedule for that Figure; and

   (c)   contain details of the transport index of the package, the principal radioactive content of the package and the activity of that content.

(4)   A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

   (a)   in the case of a body corporate—50 penalty units; and

   (b)   in the case of a natural person—10 penalty units.

60.   Information to be affixed to packages

(1)   A person shall not consign for transportation a Category I, a Category II or a Category III package, unless there is affixed to an external surface of the package a document containing the words "radioactive material" together with particulars of—

   (a)   the name and address of the consignor of the package;

(b)   the name and address of the consignee of the package;

(c)   the name and physical and chemical form of the radioactive material contained in the package;

(d)   the activity of the radioactive material contained in the package;

(e)   the Category of the package; and

(f)   in the case of a Category II or Category III package—the transport index of the package.

(**2**)   A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a)   in the case of a body corporate—50 penalty units; and

(b)   in the case of a natural person—10 penalty units.

61.   Packages not to be altered

(**1**)   A person shall not, without reasonable excuse, alter or modify, in any material particular, a Category I, a Category II or a Category III package, or any label or document affixed to such a package, in the course of transportation.

(**2**)   A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a)   in the case of a body corporate—250 penalty units; and

(b)   in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

62.   Packages to be secured during transportation

A person who transports a Category I, a Category II or a Category III package shall ensure that the package is so secured that its position in or on any vehicle or vessel in which it is being transported remains fixed in the course of transportation.

Penalty:
> (a)   if the offender is a natural person—10 penalty units;
>
> (b)   if the offender is a body corporate—50 penalty units.

63.   Leaking packages not to be used

(1)   A person shall not use a package as a container for radioactive material if there are reasonable grounds for suspecting that a leakage of radioactive material from the package has occurred unless the package has been repaired and decontaminated.

(2)   A person who has reasonable grounds for suspecting that there has been a leakage of radioactive material from a Category I, a Category II or a Category III package in his or her possession or under his or her control shall—

> (a)   take all reasonable steps to prevent other persons from having access to the package and from ingesting or inhaling any material contained in the package;
>
> (b)   notify the Chairperson or an inspector of the suspected leakage; and
>
> (c)   carry out all instructions that the Chairperson or an inspector gives consequent upon a notification under paragraph (b).

(3)   A person who contravenes subsection (1) is guilty of an offence punishable, on conviction, by a fine not exceeding—

> (a)   in the case of a body corporate—250 penalty units; and
>
> (b)   in the case of a natural person—50 penalty units or imprisonment for a period not exceeding 6 months, or both.

(4)   A person who contravenes paragraph (2) (a) is guilty of an offence punishable, on conviction, by a fine not exceeding 50 penalty units.

(5)   A person who contravenes paragraph (2) (b) or (c) is guilty of an offence punishable, on conviction, by a fine not exceeding 10 penalty units.

64.   Vehicles to carry warning signs

(1)   Where a person uses a road vehicle for the purpose of transporting a Category I, a Category II or a Category III package, the person shall, when the vehicle is being so used, cause to be affixed to the external surface of each of the 2 lateral sides and to the external surface of the rear of the vehicle a warning sign—

> (a)   conforming with Figure 4 in Schedule 6; and
>
> (b)   complying with the requirements in that Schedule for that Figure.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—250 penalty units; and

(b) in the case of a natural person—50 penalty units.

65. Passengers not to ride in certain vehicles

(1) A person who transports a Category I, a Category II or a Category III package in or on a road vehicle shall not permit a person, other than the driver of the vehicle or a person assisting the driver, to ride in or on the vehicle at any time when the package is in or on the vehicle.

(2) Where there is in or on any road vehicle a Category I, a Category II or a Category III package, a person, other than the driver of the vehicle or a person assisting the driver, shall not ride in or on the vehicle.

(3) A person who contravenes subsection (1) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—25 penalty units; and

(b) in the case of a natural person—5 penalty units.

(4) A person who contravenes subsection (2) is guilty of an offence punishable, on conviction, by a fine not exceeding 2 penalty units.

PART VI—STORAGE AND DISPOSAL OF RADIOACTIVE MATERIALS

66. Storage of radioactive materials

(1) A person (other than a licensee) shall not use a place, other than licensed premises or a place approved by the Council, to store radioactive material.

(2) A person who contravenes subsection (1) is guilty of an offence punishable, on conviction, by a fine not exceeding—

(a) in the case of a body corporate—250 penalty units; and

(b) in the case of a natural person—50 penalty units.

(3) The Council shall not approve a place for the purpose of subsection (1) unless the Council is satisfied that the facilities provided and the precautions taken at the place are adequate to prevent—

(a) giving rise to a radiation hazard; and

(b) access by unauthorized persons to radioactive material stored in the place.

(4) The Chairperson shall, if required to do so by the Council, notify the Fire Commissioner of the address of any place approved by the Council under this section.

67. Radiation warning sign to be displayed

(1) A person who stores radioactive material in any place shall cause to be displayed on or close to that place a radiation warning sign—

    (a) conforming with Figure 4 in Schedule 6; and

    (b) complying with the requirements specified in that Schedule for that Figure.

(2) A person who contravenes this section is guilty of an offence punishable, on conviction, by a fine not exceeding—

    (a) in the case of a body corporate—250 penalty units; and

    (b) in the case of a natural person—50 penalty units.

68. Disposal of radioactive material

(1) A person shall not—

    (a) abandon radioactive material; or

    (b) dispose of radioactive material, otherwise than by way of sale authorized by a licence granted under Part III, except in accordance with a permit granted by the Council under this section.

(2) A person who contravenes subsection (1) is guilty of an offence punishable, on conviction, by a fine not exceeding—

    (a) in the case of a body corporate—500 penalty units; and

    (b) in the case of a natural person—100 penalty units.

(3) An application to the Council for the grant of a permit to dispose of radioactive material shall—

    (a) be in writing, signed by the applicant;

    (b) contain particulars of—

        (i) the name, physical and chemical form and quantity of the radioactive material;

        (ii) the proposed method of disposal; and

        (iii) the proposed place of disposal; and

    (c) be lodged with the Chairperson.

(4)   Where, on an application in accordance with subsection (3), the Council is satisfied—

(a)   that the disposal of the radioactive material to which the application relates by the proposed method and at the proposed place is not likely to endanger the safety of the public; and

(b)   the proposed method of disposal of that material is reasonable, having regard to any alternative methods of disposal reasonably available for the disposal of radioactive material of that kind and the cost of such alternative methods of disposal,

the Council shall grant a permit authorizing the applicant to dispose of the quantity of the radioactive material specified in the permit by the method and at the place specified in the permit.

PART VII—MISCELLANEOUS

69.   Fluoroscope not to be used in fitting foot-wear

Notwithstanding anything in this Act, a person shall not install or use a fluoroscope for the purpose of assisting in the fitting, or in the checking of the fitting, of foot-wear.

Penalty:

(a)   if the offender is a natural person—10 penalty units;

(b)   if the offender is a body corporate—50 penalty units.

71.   Evidentiary certificates

Where, in a prosecution for an offence against this Act, it is necessary to prove—

(a)   the quantity of an absorbed dose;

(b)   the name or physical or chemical form of a radioactive material;

(c)   the activity of a radioactive material; or

(d)   the quantity of a dose equivalent,

a certificate purporting to be signed by the Chairperson stating any such measurement or other fact is evidence of the matters so certified and of the facts on which they are based.

72.   Appeals

Application may be made to the Administrative Appeals Tribunal for review of a decision of the Council—

(a) under subsection 6 (2) to make, or to refuse to make, a declaration that material or apparatus does not give rise to a radiation hazard;

(b) under subsection 6 (5) to revoke a declaration that material or apparatus does not give rise to a radiation hazard;

(c) under subsection 29 (1) to grant, or to refuse to grant, a licence;

(d) under subsection 29 (1) to grant a licence subject to conditions;

(e) under subsection 29 (1) to grant a licence for a period of less than 5 years;

(f) under subsection 30 (3) to vary a condition specified in a licence;

(g) under subsection 31 (2) to renew a licence for a period of less than 5 years;

(h) under subsection 32 (1) to cancel a licence;

(j) under subsection 48 (5) to register, or to refuse to register, any irradiating apparatus;

(k) under subsection 48 (5) to register any irradiating apparatus for a period of less than 5 years;

(m) under subsection 50 (2) to renew the registration for a period of less than 5 years;

(n) under paragraph 51 (1) (a) to approve, or to refuse to approve, an alteration or modification of a registered irradiating apparatus;

(o) under paragraph 51 (1) (b) to approve, or to refuse to approve, an alteration in the location, installation or shielding of any registered irradiating apparatus;

(p) under subsection 52 (1) to cancel the registration of an irradiating apparatus;

(q) under subsection 54 (1) to make, or to refuse to make, a declaration that material is exempt material;

(r) under subsection 54 (6) to revoke a declaration that material is exempt material;

(s) under subsection 66 (1) to approve, or to refuse to approve, a place (other than licensed premises) for the purpose of storing radioactive material; or

(t) under subsection 68 (4) to grant, or to refuse to grant, a permit to dispose of radioactive material.

73.   Notification of decisions

(1)   Where the Council makes a decision—

    (a)   under subsection 6 (2) to make a declaration that material or apparatus does not give rise to a radiation hazard;

    (b)   under subsection 29 (1) to grant a licence;

    (c)   under subsection 29 (1) to grant a licence subject to conditions;

    (d)   under subsection 30 (3) to vary a condition specified in a licence;

    (e)   under subsection 48 (5) to register any irradiating apparatus;

    (f)   under paragraph 51 (1) (a) to approve an alteration or modification of any registered irradiating apparatus;

    (g)   under paragraph 51 (1) (b) to approve an alteration in the location, installation or shielding of any registered irradiating apparatus;

    (h)   under subsection 54 (1) to make a declaration that material is exempt material;

    (j)   under subsection 66 (1) to approve a place (other than licensed premises) for the purpose of storing radioactive material; or

    (k)   under subsection 68 (4) to grant a permit to dispose of radioactive material;

the Council shall cause to be published in the *Gazette* a notice containing particulars of the decision.

(2)   Where the Council makes a decision—

    (a)   under subsection 6 (2) to refuse to make a declaration that material or apparatus does not give rise to a radiation hazard;

    (b)   under subsection 6 (5) to revoke a declaration that material or apparatus does not give rise to a radiation hazard;

    (c)   under subsection 29 (1) to refuse to grant a licence;

    (d)   under subsection 29 (1) to grant a licence subject to conditions;

    (e)   under subsection 29 (1) to grant a licence for a period of less than 5 years;

    (f)   under subsection 30 (3) to vary a condition specified in a licence;

    (g)   under subsection 31 (2) to renew a licence for a period of less than 5 years;

    (h)   under subsection 32 (1) to cancel a licence;

    (j)   under subsection 48 (5) to refuse to register any irradiating apparatus;

(k) under subsection 48 (5) to register any irradiating apparatus for a period of less than 5 years;

(m) under subsection 50 (2) to renew the registration for a period of less than 5 years;

(n) under paragraph 51 (1) (a) to refuse to approve an alteration or modification of any registered irradiating apparatus;

(o) under paragraph 51 (1) (b) to refuse to approve an alteration in the location, installation or shielding of any registered irradiating apparatus;

(p) under subsection 52 (1) to cancel the registration of any irradiating apparatus;

(q) under subsection 54 (1) to refuse to make a declaration that material is exempt material;

(r) under subsection 54 (6) to revoke a declaration that material is exempt material;

(s) under subsection 66 (1) to refuse to approve a place (other than licensed premises) for the purpose of storing radioactive material; or

(t) under subsection 68 (4) to refuse to grant a permit to dispose of radioactive material;

the Council shall cause notice of the decision to be given to a person whose interests are affected by the decision.

(3) A notice under subsection (1) or (2) shall be in accordance with the requirements of the Code of Practice in force under subsection 25B (1) of the *Administrative Appeals Tribunal Act 1989*.

75. Transitional

(1) Where, at the commencement of this section, a person had in possession radioactive material or irradiating apparatus, that person does not commit an offence against section 26 by reason of the possession of the material or apparatus if—

(a) the period of 14 days after that commencement has not expired; or

(b) the person has made application for a licence authorizing possession of the material or apparatus and he or she has not been given notice that the Council has refused to grant the licence.

(2) Where, at the commencement of this section, a person had in possession irradiating apparatus, that person does not commit an offence against section 26 or 47 in respect of the use of that apparatus if—

(a)   the period of 14 days after that commencement has not expired; or

(b)   the person has made application for a licence authorizing the use of the apparatus and has made application for registration of the apparatus and has not been given notice that the Council has refused to grant the licence or register the apparatus.

(3)   A person who, at the commencement of this section, was using a place for the storage of radioactive material does not commit an offence against section 66 in respect of the use of that place for the storage of radioactive material if—

(a)   the period of 14 days after that commencement has not expired; or

(b)   the person has made application for approval of the place under section 66 and has not been given notice that the Council has refused to grant the approval.

76.   Service of documents

A notice or instrument that is required by this Act to be given to a person may be given—

(a)   by delivering it personally or by leaving it with a person apparently over the age of 16 years at the last known place of residence or business of the person to whom the notice or instrument is required to be given; or

(b)   by sending it by post addressed to him or her at his or her last known place of residence or business.

77.   Determination of fees by Minister

The Minister may, by notice in writing published in the *Gazette*, determine fees for the purpose of this Act.

79.   Regulations

The Executive may make regulations, not inconsistent with this Act, prescribing all matters which by this Act are required or permitted to be prescribed or which are necessary or convenient to be prescribed for giving effect to this Act.

_____

Radiation Act 1983

SCHEDULE 1

Section 5

MAXIMUM PERMISSIBLE CONCENTRATION FOR RADIOACTIVE MATERIAL IN AIR AND WATER

Column 1 Radioactive material	Column 2 Becquerels per cubic metre of air	Column 3 Becquerels per cubic metre of potable water
H-3 (sol.)	2×10^5	4×10^7
H-3 (sub.)	7×10^7	..
Be-7 (sol.)	2×10^5	2×10^7
Be-7 (insol.)	4×10^4	2×10^7
C-14 (sol.)	1×10^5	1×10^7
C-14 (sub.)	2×10^6	..
F-18 (sol.)	2×10^5	1×10^7
F-18 (insol.)	1×10^5	6×10^6
Na-22 (sol.)	7×10^3	5×10^5
Na-22 (insol.)	3×10^2	4×10^5
Na-24 (sol.)	4×10^4	2×10^6
Na-24 (insol.)	4×10^3	4×10^5
Si-31 (sol.)	2×10^5	1×10^7
Si-31 (insol.)	4×10^4	2×10^6
P-32 (sol.)	3×10^3	2×10^5
P-32 (insol.)	3×10^3	2×10^5
S-35 (sol.)	1×10^4	7×10^5
S-35 (insol.)	1×10^4	4×10^6
Cl-36 (sol.)	1×10^4	1×10^6
Cl-36 (insol.)	7×10^2	7×10^5
Cl-38 (sol.)	1×10^5	5×10^6
Cl-38 (insol.)	7×10^4	5×10^6
A-37 (sub.)	2×10^8	..
A-41 (sub.)	7×10^4	..
K-42 (sol.)	7×10^4	4×10^6
K-42 (insol.)	4×10^3	2×10^5
Ca-45 (sol.)	1×10^3	1×10^5
Ca-45 (insol.)	4×10^3	2×10^6
Ca-47 (sol.)	7×10^3	6×10^5
Ca-47 (insol.)	7×10^3	4×10^5
Sc-46 (sol.)	7×10^3	5×10^5

SCHEDULE 1—continued

Column 1	Column 2	Column 3
Radioactive material	Becquerels per cubic metre of air	Becquerels per cubic metre of potable water
Sc-46 (insol.)	7×10^2	5×10^5
Sc-47 (sol.)	2×10^4	1×10^6
Sc-47 (insol.)	2×10^4	1×10^6
Sc-48 (sol.)	7×10^3	4×10^5
Sc-48 (insol.)	4×10^3	4×10^5
V-48 (sol.)	7×10^3	4×10^5
V-48 (insol.)	2×10^3	4×10^5
Cr-51 (sol.)	4×10^5	2×10^7
Cr-51 (insol.)	7×10^4	2×10^7
Mn-52 (sol.)	7×10^3	4×10^5
Mn-52 (insol.)	4×10^3	4×10^5
Mn-54 (sol.)	1×10^4	1×10^6
Mn-54 (insol.)	1×10^3	1×10^6
Mn-56 (sol.)	3×10^4	1×10^6
Mn-56 (insol.)	2×10^4	1×10^6
Fe-55 (sol.)	3×10^4	1×10^7
Fe-55 (insol.)	4×10^4	2×10^7
Fe-59 (sol.)	4×10^3	7×10^5
Fe-59 (insol.)	2×10^3	6×10^5
Co-57 (sol.)	1×10^5	6×10^6
Co-57 (insol.)	7×10^3	5×10^6
Co-58m (sol.)	7×10^5	4×10^7
Co-58m (insol.)	3×10^5	2×10^7
Co-58 (sol.)	3×10^4	1×10^6
Co-58 (insol.)	2×10^3	1×10^6
Co-60 (sol.)	1×10^4	6×10^5
Co-60 (insol.)	3×10^2	4×10^5
Ni-59 (sol).	2×10^4	2×10^6
Ni-59 (insol.)	3×10^4	2×10^7
Ni-63 (sol.)	2×10^3	4×10^5
Ni-63 (insol.)	1×10^4	9×10^6
Ni-65 (sol.)	3×10^4	1×10^6
Ni-65 (insol.)	2×10^4	1×10^6
Cu-64 (sol.)	7×10^4	4×10^6
Cu-64 (insol.)	4×10^4	2×10^6

SCHEDULE 1—continued

Column 1	Column 2	Column 3
		Becquerels per cubic metre of potable water
	Becquerels per cubic metre of air	
Radioactive material		
Zn-65 (sol.)	4×10^3	1×10^6
Zn-65 (insol.)	2×10^3	2×10^6
Zn-69m (sol.)	1×10^4	9×10^5
Zn-69m (insol.)	1×10^4	7×10^5
Zn-69 (sol.)	3×10^5	2×10^7
Zn-69 (insol.)	3×10^5	2×10^7
Ga-72 (sol.)	7×10^3	5×10^5
Ga-72 (insol.)	7×10^3	5×10^5
Ge-71 (sol.)	4×10^5	2×10^7
Ge-71 (insol.)	2×10^5	2×10^7
As-73 (sol.)	7×10^4	6×10^6
As-73 (insol.)	1×10^4	6×10^6
As-74 (sol.)	1×10^4	6×10^5
As-74 (insol.)	4×10^3	6×10^5
As-76 (sol.)	4×10^3	2×10^5
As-76 (insol.)	4×10^3	2×10^5
As-77 (sol.)	2×10^4	1×10^6
As-77 (insol.)	1×10^4	1×10^6
Se-75 (sol.)	4×10^4	4×10^6
Se-75 (insol.)	4×10^3	4×10^6
Br-82 (sol.)	4×10^4	4×10^6
Br-82 (insol.)	7×10^3	5×10^5
Kr-85m (sub.)	2×10^5	..
Kr-85 (sub.)	4×10^5	..
Kr-87 (sub.)	4×10^4	..
Rb-86 (sol.)	1×10^4	9×10^5
Rb-86 (insol.)	3×10^3	2×10^5
Rb-87 (sol.)	2×10^4	1×10^6
Rb-87 (insol.)	3×10^3	2×10^6
Sr-85m (sol.)	1×10^6	9×10^7
Sr-85m (insol.)	1×10^6	9×10^7
Sr-85 (sol.)	7×10^3	1×10^6
Sr-85 (insol.)	4×10^3	2×10^6
Sr-89 (sol.)	1×10^3	1×10^5
Sr-89 (insol.)	1×10^3	4×10^5

SCHEDULE 1—continued

Column 1	Column 2	Column 3
Radioactive material	Becquerels per cubic metre of air	Becquerels per cubic metre of potable water
Sr-90 (sol.)	10	1×10^3
Sr-90 (insol.)	2×10^2	5×10^5
Sr-91 (sol.)	1×10^4	9×10^5
Sr-91 (insol.)	1×10^4	6×10^5
Sr-92 (sol.)	1×10^4	9×10^5
Sr-92 (insol.)	1×10^4	7×10^5
Y-90 (sol.)	4×10^3	2×10^5
Y-90 (insol.)	4×10^3	2×10^5
Y-91m (sol.)	7×10^5	4×10^7
Y-91m (insol.)	7×10^5	4×10^7
Y-91 (sol.)	1×10^3	4×10^5
Y-91 (insol.)	1×10^3	4×10^5
Y-92 (sol.)	1×10^4	7×10^5
Y-92 (insol.)	1×10^4	7×10^5
Y-93 (sol.)	7×10^3	4×10^5
Y-93 (insol.)	4×10^3	4×10^5
Zr-93 (sol.)	4×10^3	1×10^7
Zr-93 (insol.)	1×10^4	1×10^7
Zr-95 (sol.)	4×10^3	7×10^5
Zr-95 (insol.)	1×10^3	7×10^5
Zr-97 (sol.)	4×10^3	2×10^5
Zr-97 (insol.)	3×10^3	2×10^5
Nb-93m (sol.)	4×10^3	5×10^6
Nb-93m (insol.)	7×10^3	5×10^6
Nb-95 (sol.)	2×10^4	1×10^6
Nb-95 (insol.)	4×10^3	1×10^6
Nb-97 (sol.)	2×10^5	1×10^7
Nb-97 (insol.)	2×10^5	1×10^7
Mo-99 (sol.)	3×10^4	2×10^6
Mo-99 (insol.)	7×10^3	5×10^5
Tc-96m (sol.)	3×10^6	1×10^8
Tc-96m (insol.)	1×10^6	1×10^8
Tc-96 (sol.)	2×10^4	1×10^6
Tc-96 (insol.)	7×10^3	6×10^5
Tc-97m (sol.)	7×10^4	5×10^6

SCHEDULE 1—continued

Column 1	Column 2	Column 3
		Becquerels per cubic metre of potable water
	Becquerels per cubic metre of air	
Radioactive material		
Tc-97m (insol.)	7×10^3	2×10^6
Tc-97 (sol.)	4×10^5	2×10^7
Tc-97 (insol.)	1×10^4	1×10^7
Tc-99m (sol.)	1×10^6	7×10^7
Tc-99m (insol.)	4×10^5	4×10^7
Tc-99 (sol.)	7×10^4	4×10^6
Tc-99 (insol.)	2×10^3	2×10^6
Ru-97 (sol.)	7×10^4	5×10^6
Ru-97 (insol.)	7×10^4	4×10^6
Ru-103 (sol.)	2×10^4	1×10^6
Ru-103 (insol.)	3×10^3	1×10^6
Ru-105 (sol.)	3×10^4	1×10^6
Ru-105 (insol.)	2×10^4	1×10^6
Ru-106 (sol.)	3×10^3	1×10^5
Ru-106 (insol.)	2×10^2	1×10^5
Rh-103m (sol.)	3×10^6	1×10^8
Rh-103m (insol.)	2×10^6	1×10^8
Rh-105 (sol.)	3×10^4	1×10^6
Rh-105 (insol.)	2×10^4	1×10^6
Pd-103 (sol.)	4×10^4	4×10^6
Pd-103 (insol.)	3×10^4	4×10^6
Pd-109 (sol.)	2×10^4	1×10^6
Pd-109 (insol.)	1×10^4	9×10^5
Ag-105 (sol.)	2×10^4	1×10^6
Ag-105 (insol.)	3×10^3	1×10^6
Ag-110m (sol.)	7×10^3	4×10^5
Ag-110m (insol.)	4×10^2	4×10^5
Ag-111 (sol.)	1×10^4	5×10^5
Ag-111 (insol.)	7×10^3	5×10^5
Cd-109 (sol.)	2×10^3	2×10^6
Cd-109 (insol.)	3×10^3	2×10^6
Cd-115m (sol.)	1×10^3	4×10^5
Cd-115m (insol.)	1×10^3	4×10^5
Cd-115 (sol.)	7×10^3	4×10^5
Cd-115 (insol.)	7×10^3	5×10^5

SCHEDULE 1—continued

Column 1	Column 2	Column 3
	Becquerels per cubic metre of air	Becquerels per cubic metre of potable water
Radioactive material		
In-113m (sol.)	3×10^5	1×10^7
In-l13m (insol.)	3×10^5	1×10^7
In-l14m (sol.)	4×10^3	2×10^5
In-l14m (insol.)	7×10^2	2×10^5
In-115m (sol.)	7×10^4	5×10^6
In-115m (insol.)	7×10^4	5×10^6
In-115 (sol.)	7×10^3	1×10^6
In-115 (insol.)	1×10^3	1×10^6
Sn-113 (sol.)	1×10^4	1×10^6
Sn-l13 (insol.)	2×10^3	1×10^6
Sn-125 (sol.)	4×10^3	2×10^5
Sn-125 (insol.)	3×10^3	2×10^5
Sb-122 (sol.)	7×10^3	4×10^5
Sb-122 (insol.)	4×10^3	4×10^5
Sb-124 (sol.)	7×10^3	2×10^5
Sb-124 (insol.)	7×10^2	2×10^5
Sb-125 (sol.)	2×10^4	1×10^6
Sb-125 (insol.)	1×10^3	1×10^6
Te-125m (sol.)	1×10^4	2×10^6
Te-125m (insol.)	4×10^3	1×10^6
Te-127m (sol.)	4×10^3	7×10^5
Te-127m (insol.)	1×10^3	6×10^5
Te-127 (sol.)	7×10^4	4×10^6
Te-127 (insol.)	3×10^4	2×10^6
Te-129m (sol.)	3×10^3	4×10^5
Te-129m (insol.)	1×10^3	2×10^5
Te-129 (sol.)	2×10^5	1×10^7
Te-129 (insol.)	1×10^5	1×10^7
Te-131m (sol.)	1×10^4	7×10^5
Te-131m (insol.)	7×10^3	5×10^5
Te-132 (sol.)	7×10^3	4×10^5
Te-132 (insol.)	4×10^3	2×10^5
I-125 (sol.)	2×10^2	1×10^4
I-125 (insol.)	7×10^3	1×10^7
I-126 (sol.)	3×10^2	2×10^4

SCHEDULE 1—continued

Column 1	Column 2	Column 3
Radioactive material	Becquerels per cubic metre of air	Becquerels per cubic metre of potable water
I-126 (insol.)	1×10^4	1×10^6
I-129 (sol.)	70	5×10^3
I-129 (insol.)	3×10^3	2×10^6
I-131 (sol.)	3×10^2	2×10^4
I-131 (insol.)	1×10^4	7×10^5
I-132 (sol.)	7×10^3	7×10^5
I-132 (insol.)	3×10^4	2×10^6
I-133 (sol.)	1×10^3	9×10^4
I-133 (insol.)	7×10^3	5×10^5
I-134 (sol.)	2×10^4	1×10^6
I-134 (insol.)	1×10^5	7×10^6
I-135 (sol.)	4×10^3	2×10^5
I-135 (insol.)	1×10^4	9×10^5
Xe-131m (sub.)	7×10^5	..
Xe-133 (sub.)	4×10^5	..
Xe-135 (sub.)	1×10^5	..
Cs-131 (sol.)	4×10^5	2×10^7
Cs-131 (insol.)	1×10^5	1×10^7
Cs-134m (sol.)	1×10^6	7×10^7
Cs-134m (insol.)	2×10^5	1×10^7
Cs-134 (sol.)	1×10^3	1×10^5
Cs-134 (insol.)	4×10^2	5×10^5
Cs-135 (sol.)	2×10^4	1×10^6
Cs-135 (insol.)	3×10^3	2×10^6
Cs-136 (sol.)	1×10^4	1×10^6
Cs-136 (insol.)	7×10^3	7×10^5
Cs-137 (sol.)	2×10^3	2×10^5
Cs-137 (insol.)	4×10^2	5×10^5
Ba-131 (sol.)	4×10^4	2×10^6
Ba-131 (insol.)	1×10^4	2×10^6
Ba-140 (sol.)	4×10^3	4×10^5
Ba-140 (insol.)	1×10^3	2×10^5
La-140 (sol.)	7×10^3	2×10^5
La-140 (insol.)	4×10^3	2×10^5
Ce-141 (sol.)	1×10^4	1×10^6

SCHEDULE 1—continued

Column 1	Column 2	Column 3
Radioactive material	Becquerels per cubic metre of air	Becquerels per cubic metre of potable water
Ce-141 (insol.)	7×10^3	1×10^6
Ce-143 (sol.)	1×10^4	5×10^5
Ce-143 (insol.)	7×10^3	5×10^5
Ce-144 (sol.)	4×10^2	1×10^5
Ce-144 (insol.)	2×10^2	1×10^5
Pr-142 (sol.)	7×10^3	4×10^5
Pr-142 (insol.)	7×10^3	4×10^5
Pr-143 (sol.)	1×10^4	6×10^5
Pr-143 (insol.)	7×10^3	6×10^5
Nd-144 (sol.)	3	9×10^5
Nd-144 (insol.)	10	1×10^6
Nd-147 (sol.)	1×10^4	7×10^5
Nd-147 (insol.)	7×10^3	7×10^5
Nd-149 (sol.)	7×10^4	4×10^6
Nd-149 (insol.)	4×10^4	4×10^6
Pm-147 (sol.)	2×10^3	2×10^6
Pm-147 (insol.)	4×10^3	2×10^6
Pm-149 (sol.)	1×10^4	5×10^5
Pm-149 (insol.)	7×10^3	5×10^5
Sm-147 (sol.)	3	7×10^5
Sm-147 (insol.)	10	9×10^5
Sm-151 (sol.)	2×10^3	5×10^6
Sm-151 (insol.)	4×10^3	5×10^6
Sm-153 (sol.)	2×10^4	1×10^6
Sm-153 (insol.)	1×10^4	1×10^6
Eu-152 (9.2 hr) (sol.)	1×10^4	7×10^5
Eu-152 (9.2 hr) (insol.)	1×10^4	7×10^5
Eu-152 (13 y) (sol.)	4×10^2	1×10^6
Eu-152 (13 y) (insol.)	7×10^2	1×10^6
Eu-154 (sol.)	1×10^2	2×10^5
Eu-154 (insol.)	3×10^2	2×10^5
Eu-155 (sol.)	3×10^3	2×10^6
Eu-155 (insol.)	3×10^3	2×10^6
Gd-153 (sol.)	7×10^3	2×10^6
Gd-153 (insol.)	3×10^3	2×10^6

SCHEDULE 1—continued

Column 1	Column 2	Column 3
Radioactive material	Becquerels per cubic metre of air	Becquerels per cubic metre of potable water
Gd-159 (sol.)	2×10^4	1×10^6
Gd-159 (insol.)	1×10^4	1×10^6
Tb-160 (sol.)	4×10^3	5×10^5
Tb-160 (insol.)	1×10^3	5×10^5
Dy-165 (sol.)	1×10^5	5×10^6
Dy-165 (insol.)	7×10^4	5×10^6
Dy-166 (sol.)	7×10^3	5×10^5
Dy-166 (insol.)	7×10^3	5×10^5
Ho-166 (sol.)	7×10^3	4×10^5
Ho-166 (insol.)	7×10^3	4×10^5
Er-169 (sol.)	2×10^4	1×10^6
Er-169 (insol.)	1×10^4	1×10^6
Er-171 (sol.)	3×10^4	1×10^6
Er-171 (insol.)	2×10^4	1×10^6
Tm-170 (sol.)	1×10^3	6×10^5
Tm-170 (insol.)	1×10^3	6×10^5
Tm-171 (sol.)	4×10^3	6×10^6
Tm-171 (insol.)	7×10^3	6×10^6
Yb-175 (sol.)	2×10^4	1×10^6
Yb-175 (insol.)	2×10^4	1×10^6
Lu-177 (sol.)	2×10^4	1×10^6
Lu-177 (insol.)	2×10^4	1×10^6
Hf-181 (sol.)	1×10^3	9×10^6
Hf-181 (insol.)	3×10^3	9×10^6
Ta-182 (sol.)	1×10^3	5×10^5
Ta-182 (insol.)	7×10^2	5×10^5
W-181 (sol.)	7×10^4	5×10^6
W-181 (insol.)	4×10^3	4×10^6
W-185 (sol.)	3×10^4	1×10^6
W-185 (insol.)	4×10^3	1×10^6
W-187 (sol.)	1×10^4	9×10^5
W-187 (insol.)	1×10^4	7×10^5
Re-183 (sol.)	1×10^5	7×10^6
Re-183 (insol.)	7×10^3	4×10^6
Re-186 (sol.)	2×10^4	1×10^6

SCHEDULE 1—continued

Column 1	Column 2	Column 3
		Becquerels per cubic metre of potable water
	Becquerels per cubic metre of air	
Radioactive material		
Re-186 (insol.)	7×10^3	6×10^5
Re-187 (sol.)	3×10^5	4×10^7
Re-187 (insol.)	2×10^4	2×10^7
Re-188 (sol.)	1×10^4	7×10^5
Re-188 (insol.)	7×10^3	4×10^5
Os-185 (sol.)	2×10^4	9×10^5
Os-185 (insol.)	2×10^3	9×10^5
Os-191m (sol.)	7×10^5	4×10^7
Os-191m (insol.)	3×10^5	2×10^7
Os-191 (sol.)	4×10^4	2×10^6
Os-191 (insol.)	1×10^4	2×10^6
Os-193 (sol.)	1×10^4	7×10^5
Os-193 (insol.)	1×10^4	6×10^5
Ir-190 (sol.)	4×10^4	2×10^6
Ir-190 (insol.)	1×10^4	2×10^6
Ir-192 (sol.)	4×10^3	5×10^5
Ir-192 (insol.)	1×10^3	5×10^5
Ir-194 (sol.)	7×10^3	4×10^5
Ir-194 (insol.)	7×10^3	4×10^5
Pt-191 (sol.)	3×10^4	1×10^6
Pt-191 (insol.)	2×10^4	1×10^6
Pt-193m (sol.)	3×10^5	1×10^7
Pt-193m (insol.)	2×10^5	1×10^7
Pt-193 (sol.)	4×10^4	1×10^7
Pt-193 (insol.)	1×10^4	2×10^7
Pt-197m (sol.)	2×10^5	1×10^7
Pt-197m (insol.)	2×10^5	1×10^7
Pt-197 (sol.)	3×10^4	1×10^6
Pt-197 (insol.)	2×10^4	1×10^6
Au-196 (sol.)	4×10^4	2×10^6
Au-196 (insol.)	2×10^4	1×10^6
Au-198 (sol.)	1×10^4	6×10^5
Au-198 (insol.)	7×10^3	6×10^5
Au-199 (sol.)	4×10^4	2×10^6
Au-199 (insol.)	3×10^4	2×10^6

SCHEDULE 1—continued

Column 1 Radioactive material	Column 2 Becquerels per cubic metre of air	Column 3 Becquerels per cubic metre of potable water
Hg-197m (sol.)	3×10^4	2×10^6
Hg-197m (insol.)	3×10^4	2×10^6
Hg-197 (sol.)	4×10^4	4×10^6
Hg-197 (insol.)	1×10^5	6×10^6
Hg-203 (sol.)	3×10^3	2×10^5
Hg-203 (insol.)	4×10^3	1×10^6
Tl-200 (sol.)	1×10^5	5×10^6
Tl-200 (insol.)	4×10^4	2×10^6
Tl-201 (sol.)	7×10^4	4×10^6
Tl-201 (insol.)	3×10^4	2×10^6
Tl-202 (sol.)	3×10^4	1×10^6
Tl-202 (insol.)	7×10^3	9×10^5
Tl-204 (sol.)	2×10^4	1×10^6
Tl-204 (insol.)	1×10^3	7×10^5
Pb-203 (sol.)	1×10^5	5×10^6
Pb-203 (insol.)	7×10^4	5×10^6
Pb-210 (sol.)	4	1×10^3
Pb-210 (insol.)	7	2×10^6
Pb-212 (sol.)	7×10^2	2×10^5
Pb-212 (insol.)	7×10^2	2×10^5
Bi-206 (sol.)	7×10^3	5×10^5
Bi-206 (insol.)	4×10^3	5×10^5
Bi-207 (sol.)	7×10^3	7×10^5
Bi-207 (insol.)	4×10^2	7×10^5
Bi-210 (sol.)	2×10^2	5×10^5
Bi-210 (insol.)	2×10^2	5×10^5
Bi-212 (sol.)	4×10^3	5×10^6
Bi-212 (insol.)	7×10^3	5×10^6
Po-210 (sol.)	20	9×10^3
Po-210 (insol.)	7	4×10^5
At-211 (sol.)	3×10^2	2×10^4
At-211 (insol.)	1×10^3	9×10^5
Rn-220	1×10^4	..
Rn-222	1×10^3	..
Ra-223 (sol.)	70	9×10^3

SCHEDULE 1—continued

Column 1	Column 2	Column 3
Radioactive material	Becquerels per cubic metre of air	Becquerels per cubic metre of potable water
Ra-223 (insol.)	7	5×10^4
Ra-224 (sol.)	2×10^2	2×10^4
Ra-224 (insol.)	30	6×10^4
Ra-226 (sol.)	1	1×10^2
Ra-226 (insol.)	7×10^3	4×10^5
Ra-228 (sol.)	3	4×10^2
Ra-228 (insol.)	1	4×10^5
Ac-227 (sol.)	7×10^2	2×10^4
Ac-227 (insol.)	1	4×10^6
Ac-228 (sol.)	3×10^3	1×10^6
Ac-228 (insol.)	7×10^2	1×10^6
Th-227 (sol.)	10	2×10^5
Th-227 (insol.)	7	2×10^5
Th-228 (sol.)	3×10^{-1}	9×10^4
Th-228 (insol.)	2×10^{-1}	1×10^5
Th-230 (sol.)	7×10^{-2}	2×10^4
Th-230 (insol.)	4×10^{-1}	4×10^5
Th-231 (sol.)	4×10^4	2×10^6
Th-231 (insol.)	4×10^4	2×10^6
Th-232 (sol.)	7×10^{-2}	2×10^4
Th-232 (insol.)	4×10^{-1}	5×10^5
Th-234 (sol.)	2×10^3	2×10^5
Th-234 (insol.)	1×10^3	2×10^5
Th-nat (sol.)	7×10^{-2}	1×10^4
Th-nat (insol.)	1×10^{-1}	1×10^5
Pa-230 (sol.)	70	2×10^6
Pa-230 (insol.)	30	2×10^6
Pa-231 (sol.)	4×10^{-2}	1×10^4
Pa-231 (insol.)	4	4×10^5
Pa-233 (sol.)	2×10^4	1×10^6
Pa-233 (insol.)	7×10^3	1×10^6
U-230 (sol.)	10	6×10^4
U-230 (insol.)	4	6×10^4
U-232 (sol.)	4	4×10^5
U-232 (insol.)	1	4×10^5

SCHEDULE 1—continued

Column 1	Column 2	Column 3
Radioactive material	Becquerels per cubic metre of air	Becquerels per cubic metre of potable water
U-233 (sol.)	20	4×10^5
U-233 (insol.)	4	4×10^5
U-234 (sol.)	20	4×10^5
U-234 (insol.)	4	4×10^5
U-235 (sol.)	20	4×10^5
U-235 (insol.)	4	4×10^5
U-236 (sol.)	20	4×10^5
U-236 (insol.)	4	4×10^5
U-238 (sol.)	3	5×10^5
U-238 (insol.)	4	5×10^5
U-nat (sol.)	3	2×10^5
U-nat (insol.)	2	2×10^5
Np-237 (sol.)	1×10^{-1}	4×10^4
Np 237 (insol.)	4	4×10^5
Np-239 (sol.)	3×10^4	1×10^6
Np-239 (insol.)	3×10^4	1×10^6
Pu-238 (sol.)	7×10^{-2}	6×10^4
Pu-238 (insol.)	1	4×10^5
Pu-239 (sol.)	7×10^{-2}	6×10^4
Pu-239 (insol.)	1	4×10^5
Pu-240 (sol.)	7×10^{-2}	6×10^4
Pu-240 (insol.)	1	4×10^5
Pu-241 (sol.)	3	2×10^6
Pu-241 (insol.)	1×10^3	1×10^7
Pu-242 (sol.)	7×10^{-2}	6×10^4
Pu-242 (insol.)	1	4×10^5
Am-241 (sol.)	2×10^{-1}	5×10^4
Am-241 (insol.)	4	4×10^5
Am-243 (sol.)	2×10^{-1}	5×10^4
Am-243 (insol.)	4	4×10^5
Cm-242 (sol.)	4	2×10^5
Cm-242 (insol.)	7	2×10^5
Cm-243 (sol.)	2×10^{-1}	6×10^4
Cm-243 (insol.)	4	2×10^5
Cm-244 (sol.)	3×10^{-1}	9×10^4

SCHEDULE 1—continued

Column 1	Column 2	Column 3
		Becquerels per cubic metre of potable water
	Becquerels per cubic metre of air	
Radioactive material		
Cm-244 (insol.)	4	4×10^5
Cm-245 (sol.)	2×10^{-1}	5×10^4
Cm-245 (insol.)	4	4×10^5
Cm-246 (sol.)	2×10^{-1}	5×10^4
Cm-246 (insol.)	4	4×10^5
Bk-249 (sol.)	30	7×10^6
Bk-249 (insol.)	4×10^3	7×10^6
Cf-249 (sol.)	7×10^{-2}	5×10^4
Cf-249 (insol.)	4	2×10^5
Cf-250 (sol.)	2×10^{-1}	1×10^5
Cf-250 (insol.)	4	4×10^5
Cf-252 (sol.)	2×10^{-1}	9×10^4
Cf-252 (insol.)	1	9×10^4

Radiation Act 1983

SCHEDULE 2

QUALITY FACTORS

Column 1	Column 2
Type of radiation	Quality factor
1 X-rays; gamma rays; electrons..	1
2 Thermal neutrons	2.3
3 Neutrons; protons; singly charged particles of rest mass greater than 1 atomic mass unit of unknown energy	10
4 Alpha particles and multiply charged particles (and particles of unknown charge) of unknown energy	20

SCHEDULE 3

MAXIMUM ACTIVITY OF EXEMPT RADIONUCLIDES

Notes: (1) The figures immediately following the name of an element in this Schedule refer to the atomic mass number of the radionuclide.

(2) In this Schedule "m" means the metastable state.

Item No.	Column 1	Column 2
1	Ac-227, Am-241, Am-243, Cf-249, Cf-250, Cf-252, Cm-242, Cm-243, Cm-244, Cm-245, Cm-246, Np-237, Pa-231, Pb-210, Po-210, Pu-238, Pu-239, Pu-240, Pu-241, Pu-242, Ra-223, Ra-226, Ra-228, Th-227, Th-228, Th-230, U-230, U-232, U-233, U-234.	4 kilobecquerels
2	Ac-228, At-211, Ba-140, Bl-207, Bi-210, Bk-249, Ca-45, Ce-144, C1-36, Co-56, Co-60, Cs-134, Cs-137, Eu-152, Eu-154, Ge-68, Hf-181, I-125, I-126, I-131, I-133, In-114m, Ir-192, Mn-54, Na-22, Pa-230, Pb-212, Ra-224, Ru-106, Sb-124, Sb-125, Sc-46, Sr-89, Sr-90, Ta-182, Tb-160, Te-127m, Te-129m, Th-234, Tl-204, Tm-170, U-236, Y-91, Zr-95.	40 kilobecquerels

SCHEDULE 3—continued

Item No.	Column 1	Column 2
3	Ag-105, Ag-l10m, Ag-l11, Ar-41, As-73, As-74, As-76, As-77, Au-193, Au-196, Au-198, Au-199, Ba-131, Ba-133, Be-7, Bi-206, Bi-212, Br-77, Br-82, C-14, Ca-47, Cd-109, Cd-115m, Cd-l15, Ce-139, Ce-141, Ce-143, C1-38, Co-57, Co-58, Cr-51, Cs-129, Cs-131, Cs-136, Cu-64, Cu-67, Dy-165, Dy-166, Er-169, Er-171, Eu-152m, Eu-155, F-18, Fe-52, Fe-55, Fe-59, Ga-67, Ga-72, Gd-153, Gd-159, Hg-179m, Hg-197, Hg-203, Ho-166, I-123, I-132, I-134, I-135, In-111, In-115m, Ir-190, Ir-194, K-42, K-43, Kr-85m, Kr-87, La-140, Lu-177, Mg-28, Mn-52, Mn-56, Mo-99, Na-24, Nb-93m, Nb-95, Nd-147, Nd-149, Ni-63, Ni-65, Np-239, Os-185 Os-l91, Os-193, P-32, Pa-233, Pd-103, Pd-109, Pm-147, Pm-149, Pr-142, Pr-143, Pt-191, Pt-197, Rb-81, Rb-86, Re-186, Re-188, Rh-105, Rn-222, Ru-97, Ru-103, Ru-105, S-35, Sb-122, Sc-47, Sc-48, Se-75, Si-31, Sm-151, Sm-153, Sn-113, Sn-119m, Sn-125, Sr-85, Sr-91, Sr-92, Tc-96, Tc-97m, Tc-97, Tc-99, Te-125m, Te-127, Te-129, Te-131m, Te-132, Th-231, T1-200, T1-201, T1-202, Tm-171, V-48, W-181, W-185, W-187, Xe-127, Xe-135, Y-87, Y-90, Y-92, Y-93, Yb-169, Yb-175, Zn-65, Zn-69m, Zr-97.	400 kilobecquerels
4	Ar-37, C-ll, Co-58m, Cs-134m, Cs-135, Ga-68, Ge-71, H-3, I-129, In-113m, Kr-85, N-13, Nb-97, Ni-59, Os-191m, Pt-193m, Pt-197m, Rb-87, Rb (natural), Re-187, Re (natural), Rh-103m, Sm-147, Sr-85m, Sr-87m, Tc-96m, Tc-99m, Th-232, Th (natural), U-235, U-238, U (natural), U (enriched), U (depleted), Xe-131m, Xe-133, Y-91m, Zn-69, Zr-93.	4 megabecquerels

SCHEDULE 4

Section 56

MAXIMUM LEVELS OF RADIOACTIVE MATERIALS IN PACKAGES

Column 1		Column 2	Column 3
Name of element and atomic number	Symbol of radionuclide		
		(terabecquerels)	(terabecquerels)
Actinium (89)..................................	227_{Ac}	40	0.00001
	228_{Ac}	0.4	0.2
Silver (47)	105_{Ag}	1	1
	$110m_{Ag}$	0.3	0.3
	111_{Ag}	4	4
Americium (95)...............................	241_{Am}	0.1	0.0001
	243_{Am}	0.1	0.0001
Argon (18)	$37_{Ar \ (compressed \ or \ uncompressed)}$	40	40
	$41_{Ar \ (uncompressed)}$	0.7 0.7	
	$41_{Ar \ (compressed)}$	0.04	0.04
Arsenic (33)	73_{As}	40	30
	74_{As}	0.7	0.7
	76_{As}	0.4	0.4
	77_{As}	10	10
Astatine (85)	211_{At}	7	1
Gold (79)..	193_{Au}	7	7
	196_{Au}	1	1
	198_{Au}	1	1
	199_{Au}	7	7
Barium (56)....................................	131_{Ba}	1	1
	133_{Ba}	1	1
	140_{Ba}	0.7	0.7
Beryllium (4)	7_{Be}	10	10
Bismuth (83)	206_{Bi}	0.2	0.2
	207_{Bi}	0.4	0.4
	$21_{0Bi \ (RaE)}$	4	0.5
	212_{Bi}	0.2	0.2
Berkelium (97)...............................	249_{Bk}	40	0.04
Bromine (35)..................................	77_{Br}	3	3
	82_{Br}	0.2	0.2
Carbon (6)......................................	11_C	0.7	0.7
	14_C	40	40
Calcium (20)	45_{Ca}	40	20

SCHEDULE 4—continued

Column 1		Column 2	Column 3
Name of element and atomic number	Symbol of radionuclide		
	^{47}Ca	0.7	0.7
Cadmium (48).................................	^{109}Cd	40	0.5
	^{115m}Cd	1	1
	^{115}Cd	3	3
Cerium (58)	^{139}Ce	4	4
	^{141}Ce	10	10
	^{143}Ce	2	2
	^{144}Ce	0.4	0.3
Californium (98).............................	^{249}Cf	0.1	0.0001
	^{250}Cf	0.3	0.0003
	^{252}Cf	0.07	0.004
Chlorine (17)	^{36}Cl	10	4
	^{38}Cl	0.4	0.4
Curium (96)	^{242}Cm	4	0.4
	^{243}Cm	0.1	0.0001
	^{244}Cm	0.2	0.0002
	^{245}Cm	0.1	0.0001
	^{246}Cm	0.1	0.0001
Cobalt (27).....................................	^{56}Co	0.2	0.2
	^{57}Co	3	3
	^{58m}Co	40	40
	^{58}Co	0.7	0.7
	^{60}Co	0.3	0.3
Chromium (24)	^{51}Cr	20	20
Caesium (55)	^{129}Cs	1	1
	^{131}Cs	40	40
	^{134m}Cs	40	40
	^{134}Cs	0.4	0.4
	^{135}Cs	40	20
	^{136}Cs	0.3	0.3
	^{137}Cs	1	1
Copper (29).....................................	^{64}Cu	3	3
	^{67}Cu	7	7
Dysprosium (66).............................	^{165}Dy	4	4
	^{166}Dy	40	10
Erbium (68)	^{169}Er	40	40
	^{171}Er	2	50

SCHEDULE 4—continued

Column 1		Column 2	Column 3
Name of element and atomic number	Symbol of radionuclide		
Europium (63).................................	$152m_{Eu}$	1	1
	152_{Eu}	0.7	0.4
	154_{Eu}	0.4	0.3
	155_{Eu}	10	1
Fluorine (9)	18_{F}	0.7	0.7
Iron (26)...	52_{Fe}	0.2	0.2
	55_{Fe}	40	30
	59_{Fe}	0.4	0.4
Gallium (31)....................................	67_{Ga}	4	4
	68_{Ga}	0.7	0.7
	72_{Ga}	0.3	0.3
Gadolimium (64)	153_{Gd}	7	3
	159_{Gd}	10	10
Germanium (32)............................	68_{Ge}	0.7	0.7
	71_{Ge}	40	40
Hydrogen (1) see T-Tritium..............	3_{H}		
Hafnium (72)	181_{Hf}	1	1
Mercury (80)....................................	197_{Hg}	7	7
	203_{Hg}	3	3
Holmium (67)	166_{Ho}	1	1
Iodine (53)	123_{I}	2	2
	125_{I}	40	1
	126_{I}	1	0.4
	129_{I}	40	0.1
	131_{I}	1	1
	132_{I}	0.3	0.3
	133_{I}	1	1
	134_{I}	0.3	0.3
	135_{I}	0.4	0.4
Indium (49)	111_{In}	1	1
	$113m_{In}$	2	2
	$114m_{In}$	1	1
	$115m_{In}$	4	4

SCHEDULE 4—continued

Column 1		Column 2	Column 3
Name of element and atomic number	Symbol of radionuclide		
Iridium (77)	190_{Ir}	0.4	0.4
	192_{Ir}	0.7	0.7
	194_{Ir}	0.4	0.4
Potassium (19)	42_{K}	0.4	0.4
	43_{K}	0.7	0.7
Krypton (36)	$85m_{Kr \text{ (uncompressed)}}$	4	4
	$85_{Kr \text{ (compressed)}}$	0.1	0.1
	$85_{Kr \text{ (uncompressed)}}$ 40	40	
	$85_{Kr \text{ (compressed)}}$	0.2	0.2
	$87_{Kr \text{ (uncompressed)}}$ 0.7	0.7	
	$87_{Kr \text{ (compressed)}}$	0.02	0.02
Lanthanum (57)	140_{La}	1	1
Lutetium (71)....................................	177_{Lu}	10	10
Magnesium (12)................................	28_{Mg}	0.2	0.2
Manganese (25)	52_{Mn}	0.2	0.2
	54_{Mn}	0.7	0.7
	56_{Mn}	0.2	0.2
Molybdenum (42)	99_{Mo}	4	4
Nitrogen (7)	13_{N}	0.7	0.7
Sodium (11)......................................	22_{Na}	0.3	0.3
	24_{Na}	0.2	0.2
Niobium (41)	$93m_{Nb}$	40	40
	95_{Nb}	0.7	0.7
	97_{Nb}	0.7	0.7
Neodymium (60)................................	147_{Nd}	4	4
	149_{Nd}	1	1
Nickel (28)..	59_{Ni}	40	40
	63_{Ni}	40	30
	65_{Ni}	0.4	0.4
Neptunium (93).................................	237_{Np}	0.1	0.0001
	239_{Np}	7	7
Osmium (76)......................................	185_{Os}	0.7	0.7
	191_{Os}	20	20
	$191m_{Os}$	7	7
	193_{Os}	4	4
Phosphorus (15)................................	32_{P}	1	1
Protactinium (91).............................	230_{Pa}	0.7	0.04

SCHEDULE 4—continued

Column 1		Column 2	Column 3
Name of element and atomic number	Symbol of radionuclide		
	231_{Pa}	0.03	0.00003
	233_{Pa}	4	4
Lead (82)...	210_{Pb}	4	0.0004
	212_{Pb}	0.2	0.2
Palladium (46)	103_{Pd}	40	40
	109_{Pd}	4	4
Promethium (61)...............................	147_{Pm}	40	40
	149_{Pm}	4	4
Polonium (84)	210_{Po}	10	0.01
Praseodymium (59)...........................	142_{Pr}	0.4	0.4
	143_{Pr}	10	10
Platinum (78)	191_{Pt}	4	4
	$193m_{Pt}$	7	7
	$197m_{Pt}$	10	10
	197_{Pt}	10	10
Plutonium (94)	238_{Pu}	0.1	0.0001
	239_{Pu}	0.1	0.0001
	240_{Pu}	0.1	0.0001
	241_{Pu}	40	40
	242_{Pu}	0.1	0.0001
Radium (88)	223_{Ra}	2	0.01
	224_{Ra}	0.2	0.03
	226_{Ra}	0.4	0.01
	228_{Ra}	0.4	0.02
Rubidium (37)..................................	81_{Rb}	1	1
	86_{Rb}	1	1
	87_{Rb}	Unlimited	Unlimited
	Rb (natural)	Unlimited	Unlimited
Rhenium (75)	186_{Re}	4	4
	187_{Re}	Unlimited	Unlimited
	188_{Re}	0.4	0.4
	Re (natural)	Unlimited	Unlimited
Rhodium (45)....................................	$103m_{Rh}$	40	40
	105_{Rh}	7	7
Radon (86)	222_{Rn}	0.4	0.4
Ruthenium (44).................................	97_{Ru}	3	3
	103_{Ru}	1	1

SCHEDULE 4—continued

Column 1		Column 2	Column 3
Name of element and atomic number	Symbol of radionuclide		
	105_{Ru}	0.7	0.7
	106_{Ru}	0.4	0.2
Sulphur (16).....................................	35_{S}	40	40
Antimony (51)	122_{Sb}	1	1
	124_{Sb}	0.2	0.2
	125_{Sb}	1	1
Scandium (21)	46_{Sc}	0.3	0.3
	47_{Sc}	7	7
	48_{Sc}	0.2	0.2
Selenium (34)	75_{Se}	1	1
Silicon (14)	31_{Si}	4	4
Samarium (62)	147_{Sm}	Unlimited	Unlimited
	151_{Sm}	40	2
	153_{Sm}		10
Tin (50)...	113_{Sn}	2	2
	119_{Sn}	4	4
	125_{Sn}	0.4	0.4
Strontium (38)	$85m_{Sr}$	3	3
	85_{Sr}	1	1
	$87m_{Sr}$	2	2
	89_{Sr}	4	3
	90_{Sr}	0.4	0.04
	91_{Sr}	0.4	0.4
	92_{Sr}	0.4	0.4
Tritium (1)	T (uncompressed)	40	40
	T (compressed)	40	40
	T (activated luminous paint) 40	40	
	T (absorbed on solid carrier) 40	40	
	T (tritiated water)	40	40
	T (other forms)	0.7	0.7
Tantalum (73)	182_{Ta}	0.7	0.7
Terbium (65)....................................	160_{Tb}	0.7	0.7
Technetium (43)	$96m_{Tc}$	40	40
	96_{Tc}	0.2	0.2
	$97m_{Tc}$	40	20

SCHEDULE 4—continued

Column 1		Column 2	Column 3
Name of element and atomic number	Symbol of radionuclide		
	97_{Tc}	40	40
	$99m_{Tc}$	4	4
	99_{Tc}	40	10
Tellerium (52)..................................	$125m_{Te}$	40	10
	$127m_{Te}$	10	4
	127_{Te}	10	10
	$129m_{Te}$	1	1
	129_{Te}	4	4
	$131m_{Te}$	0.4	0.4
	132_{Te}	0.3	0.3
Thorium (90)....................................	127_{Th}	4	0.004
	228_{Th}	0.2	0.0002
	230_{Th}	0.01	0.0001
	231_{Th}	40	40
	232_{Th}	Unlimited	Unlimited
	234_{Th}	0.4	0.4
	Th (natural)	Unlimited	Unlimited
Thallium (81)....................................	200_{Tl}	0.7	0.7
	201_{Tl}	7	7
	202_{Tl}	1	1
	204_{Tl}	10	10
Thulium (69)....................................	170_{Tm}	10	4
	171_{Tm}	40	4
Uranium (92)	230_{U}	4	0.004
	232_{U}	0.1	0.0001
	233_{U}	0.4	0.0004
	234_{U}	0.4	0.0004
	235_{U}	4	0.001
	236_{U}	7	0.0004
	238_{U}	Unlimited	Unlimited
	U (natural)	Unlimited	Unlimited
	U (enriched) less than 20%;	Unlimited	Unlimited
	20% or greater	0.4	0.0004
	U (depleted)	Unlimited	Unlimited
Vanadium (23)	48_{V}	0.2	0.2
Tungsten (74)....................................	181_{W}	7	7

SCHEDULE 4—continued

| Column 1		Column 2	Column 3
Name of element and atomic number	Symbol of radionuclide		
	185_W	40	40
	187_W	1	1
Xenon (54)......................................	$127_{Xe\ (uncompressed)}$	3	3
	$127_{Xe\ (compressed)}$	0.2	0.2
	$131m_{Xe\ (compressed)}$	0.4	0.4
	$131m_{Xe\ (uncompressed)}$	4	4
	$133_{Xe\ (uncompressed)}$	40	40
	$133_{Xe\ (compressed)}$ 0.2		0.2
	$135_{Xe\ (uncompressed)}$	3	3
	$135_{Xe\ (compressed)}$ 0.07		0.07
Yttrium (39)......................................	87_Y	0.7	0.7
	90_Y	0.4	0.4
	$91m_Y$	1	1
	91_Y	1	1
	92_Y	0.4	0.4
	93_Y	0.4	0.4
Ytterbium (70)	169_{Yb}	3	3
	175_{Yb}	10	10
Zinc (30)..	62_{Zn}	1	1
	$69m_{Zn}$	1	1
	69_{Zn}	10	10
Zirconium (40).................................	93_{Zr}	40	0.1
	95_{Zr}	0.7	0.7
	97_{Zr}	0.7	0.7

SCHEDULE 5

Section 57

DISTANCES OF PACKAGES FROM MEMBERS OF PUBLIC, & c.

Column 1	Column 2
Range of transport indexes	Distance from members of public, & c.
	(metres)
Up to 2	1.0
Over 2 but not over 4	1.5
Over 4 but not over 8	2.0
Over 8 but not over 12	2.5
Over 12 but not over 20	3.5
Over 20 but not over 30	4.0
Over 30 but not over 40	4.5
Over 40 but not over 50	5.0

SCHEDULE 6

Sections 59, 64 and 67

LABELS

Category I Packages: Label FIGURE 1
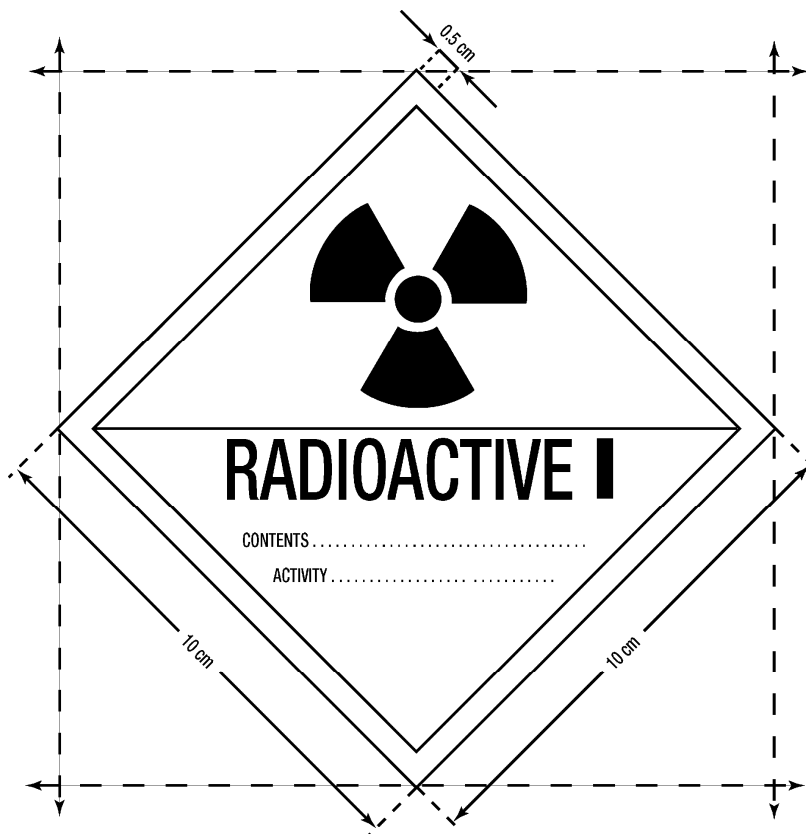
Notes:

1. The background of the label is to be white.
2. The trefoil symbol and words are to be black.
3. The single stripe is to be red.

SCHEDULE 6—continued
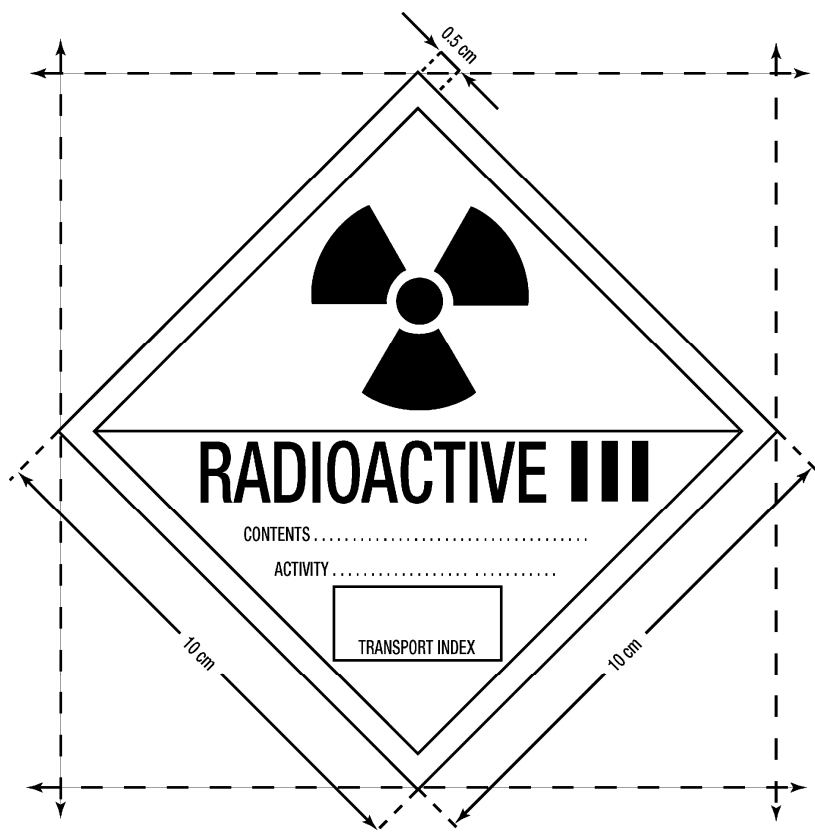
FIGURE 2

Category II Packages: Label

Notes:

1. The background of the upper half of the label is to be yellow.
2. The background of the lower half of the label is to be white.
2. The trefoil symbol and words are to be black.
3. The 2 stripes are to be red.

SCHEDULE 6—continued

FIGURE 3

Category III Packages: Label

Notes

1. The background of the upper half of the label is to be yellow.
2. The background of the lower half of the label is to be white.
2. The trefoil symbol and words are to be black.
3. The 3 stripes are to be red.

SCHEDULE 6—continued

FIGURE 4

Radiation warning signs
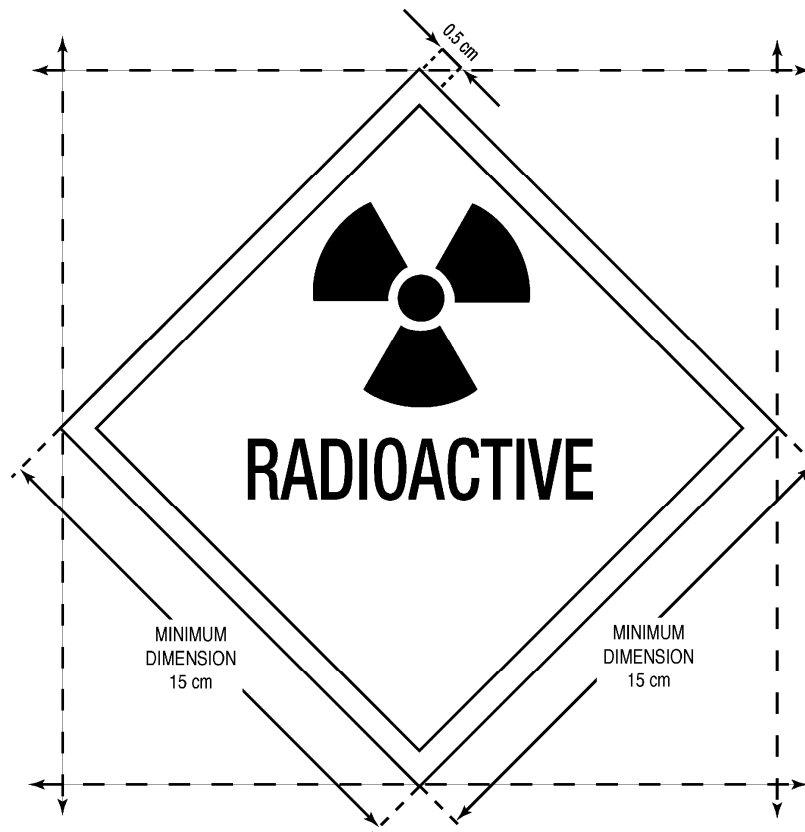
Note:

The overall shape of the sign may be diamond, rectangular or square, as indicated by the dashed lines. The dimensions given are minimum dimensions: where larger dimentions are used, the relative proportions must be maintained.

NOTES

1. The *Radiation Act 1983* as shown in this reprint comprises Act No. 58, 1983 amended as indicated in the Tables below.

   Citation of Laws—The *Self-Government (Citation of Laws) Act 1989* (No. 21, 1989) altered the citation of most Ordinances so that after Self-Government day they are to be cited as Acts. That Act also affects references in ACT laws to Commonwealth Acts.

2. The *Legislation (Republication) Act 1996* (No. 51, 1996) authorises the Parliamentary Counsel in preparing a law for republication, to make certain editorial and other formal amendments in accordance with current legislative drafting practice. Those amendments make no change in the law. Amendments made pursuant to that Act do not appear in the Table of Amendments but details may be obtained on request from the Parliamentary Counsel's Office.

Table 1

Table of Ordinances

Ordinance	Number and year	Date of notification in *Gazette*	Date of commencement	Application, saving or transitional provisions
Radiation Ordinance 1983	58, 1983	16 Dec 1983	Ss. 1 and 2: 16 Dec 1983 S. 3 and Part III (ss. 25-46): 1 Sept 1986 (*see Gazette* 1986, No. S426) Ss. 4-6 and Part II (ss. 7-24): 2 Apr 1984 (*see Gazette* 1984, No. G11, p. 1041) Parts IV-VII (ss. 47-79): 1 Aug 1985 (*see Gazette* 1985, No. S273)	
Radiation (Amendment) Ordinance 1986	50, 1986	29 Aug 1986	29 Aug 1986	—
Community and Health Service (Consequential Provisions) Ordinance 1988	29, 1988	30 June 1988	2 July 1988	S. 4
Self-Government (Consequential Amendments) Ordinance 1989	38, 1989	10 May 1989	Ss. 1 and 2: 10 May 1989 Remainder: 11 May 1989 (*see* s. 2 (2) and *Gazette* 1989, No. S164)	—
Remuneration (Miscellaneous Amendments) Ordinance 1989	50, 1989	10 May 1989	10 May 1989	—

Ordinance	Number and year	Date of notification in *Gazette*	Date of commencement	Application, saving or transitional provisions

Self-Government day 11 May 1989

Table 2

Table of Acts

Act	Number and year	Date of notification in *Gazette*	Date of commencement	Application, saving or transitional provisions
Health Services (Consequential Provisions) Act 1990	63, 1990	28 Dec 1990	Ss. 1 and 2: 28 Dec 1990 Remainder: 1 Jan 1991 (*see* s. 2 (2) and *Gazette* 1991, No. S4)	Ss. 6-17
Statute Law Revision (Miscellaneous Provisions) Act 1992	23, 1992	4 June 1992	4 June 1992	—
Health (Consequential Provisions) Act 1993	14, 1993	1 Mar 1993	1 Mar 1993 (*see* s. 2)	S. 13 and Parts IV-VI (ss. 14-34)
Radiation (Amendment) Act 1993	32, 1993	1 June 1993	1 June 1993	S. 10
Acts Revision (Position of Crown) Act 1993	44, 1993	27 Aug 1993	27 Aug 1993 (*see* s. 2)	—
Administrative Appeals (Consequential Amendments) Act 1994	60, 1994	11 Oct 1994	Ss. 1 and 2: 11 Oct 1994 Remainder: 14 Nov 1994 (*see* s. 2 (2) and *Gazette* 1994, No. S250)	—
Statutory Offices (Miscellaneous Provisions) Act 1994	97, 1994	15 Dec 1994	Ss. 1 and 2: 15 Dec 1994 Remainder: 15 Dec1994 (*see* *Gazette* 1994, No. S293)	Part III (ss. 4-9)

(Reprinted as at 28 February 1995)

Act	Number and year	Date of notification in *Gazette*	Date of commencement	Application, saving or transitional provisions
Remuneration Tribunal (Consequential Amendments) Act 1997	41, 1997	19 Sept 1997	Ss. 1 and 2: 19 Sept 1997 Remainder: 23 Sept 1997 (*see* *Gazette* 1997, No. S280)	—

Table of Acts—continued

Act	Number and year	Date of notification in *Gazette*	Date of commencement	Application, saving or transitional provisions
Statute Law Revision (Penalties) Act 1998	54, 1998	27 Nov 1998	Ss. 1 and 2: 27 Nov 1998 Remainder: 9 Dec 1998 (*see Gazette* 1998, No. 49, p. 1078)	—

Table of Amendments

ad. = added or inserted   am. = amended   rep. = repealed   rs. = repealed and substituted

Provision	How affected
S. 4	rep. Act No. 44, 1993
S. 5	am. No. 29, 1988; No. 38, 1989; Act No. 63, 1990; Nos. 14 and 32, 1993; Nos. 60 and 97, 1994
S. 6	am. Act No. 32, 1993
Ss. 8, 9	am. No. 29, 1988; Act No. 63, 1990; Nos. 14 and 32, 1993
Ss. 10, 11	am. Act No. 32, 1993
S. 12	am. Act No. 23, 1992; No. 32, 1993
Ss. 13, 14	am. Act No. 32, 1993
S. 15A	ad. Act No. 32, 1993
S. 16	am. Act No. 32, 1993
S. 16A	ad. No. 50, 1986
	rs. No. 50, 1989
	rep. Act No. 41, 1997
S. 18	am. Act No. 32, 1993
	rs. No. 97, 1994
S. 18A	ad. Act No. 97, 1994
	am. No. 54, 1998
S. 19	am. No. 29, 1988; Act No. 63, 1990; Nos. 14 and 32, 1993; No. 97, 1994
Ss. 20, 21	am. Act No. 32, 1993
S. 22	am. Act No. 32, 1993; No. 97, 1994
S. 23	am. Act No. 32, 1993
S. 24	am. Act No. 32, 1993; No. 54, 1998
S. 25	am. No. 50, 1986
S. 26	am. Act No. 32, 1993; No. 54, 1998
S. 27	am. Act No. 32, 1993
S. 28	am. No. 29, 1988; Act No. 63, 1990; Nos. 14 and 32, 1993
S. 29	am. Act No. 32, 1993
S. 31	am. No. 29, 1988; Act No. 63, 1990; Nos. 14 and 32, 1993
S. 32	am. Act No. 32, 1993
Ss. 33-35	am. Act No. 32, 1993; No. 54, 1998

Radiation Act 1983

NOTES—continued

Table of Amendments—continued

ad. = added or inserted   am. = amended   rep. = repealed   rs. = repealed and substituted

Provision	How affected
Ss. 36, 37	am. Act No. 54, 1998
S. 38	am. Act No. 32, 1993; No. 54, 1998
S. 39	am. No. 50, 1986; Act No. 32, 1993; No. 54, 1998
Ss. 40-45	am. Act No. 32, 1993; No. 54, 1998
S. 46	am. No. 50, 1986; Act No. 32, 1993
S. 47	am. Act No. 32, 1993; No. 54, 1998
S. 48	am. No. 29, 1988; Act No. 63, 1990; Nos. 14 and 32, 1993; No. 54, 1998
S. 49	am. Act No. 54, 1998
S. 50	am. No. 29, 1988; Act No. 63, 1990; Nos. 14 and 32, 1993
S. 51	am. Act No. 54, 1998
S. 52	am. Act No. 32, 1993; No. 54, 1998
S. 54	am. Act No. 32, 1993; No. 54, 1998
S. 55	am. Act No. 54, 1998
Ss. 56-58	am. Act No. 32, 1993; No. 54, 1998
Ss. 59-62	am. Act No. 54, 1998
S. 63	am. Act No. 32, 1993; No. 54, 1998
Ss. 64, 65	am. Act No. 54, 1998
S. 66	am. Act No. 32, 1993; No. 54, 1998
S. 67	am. Act No. 54, 1998
S. 68	am. Act No. 32, 1993; No. 54, 1998
S. 69	am. Act No. 54, 1998
S. 70	rep. Act No. 54, 1998
S. 71	am. Act No. 32, 1993
Ss. 72, 73	am. No. 38, 1989; Act No. 32, 1993 rs. No. 60, 1994
S. 74	am. No. 38, 1989 rep. Act No. 23, 1992
Ss. 75, 76	am. Act No. 32, 1993
S. 78	rep. No. 38, 1989
S. 79	am. No. 38, 1989
Schedule 2	am. Act No. 32, 1993

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