

THE NUCLEAR SAFETY AND RADIATION PROTECTION ACT, 2015

(Act of 2015)

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A BILL

ENTITLED

AN ACT to Make new provision for the regulation of activities, practices, apparatuses and facilities involving ionizing radiation and nuclear technology for the protection of people, property and the environment from the harmful effects of ionizing radiation; and for connected matters.

[]

BE IT ENACTED by the Queen's Most Excellent Majesty, by and with the advice and consent of the Senate and House of Representatives of Jamaica, and by the authority of the same, as follows:—

PART I—*Preliminary*

1. This Act may be cited as the Nuclear Safety and Radiation Protection Act, 2015, and shall come into operation on a day to be appointed by the Minister by notice published in the *Gazette*.

Short title and
commence-
ment.

Interpretation.

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

“accident” means any unintended event, including operating errors, equipment failures or other mishaps, the consequences or potential consequences of which are not negligible from the point of view of protection and safety;

“activity” means—

- (a) the design, manufacture, construction, import, export, distribution, sale, loan, commissioning, use, operation, maintenance, repair, transfer, decommissioning or possession, of radiation sources and equipment capable of emitting ionizing radiation for industrial, educational, research, agricultural and medical purposes;
- (b) the transport of radioactive material or nuclear material;
- (c) the mining and processing of radioactive ores;
- (d) the siting, construction, commissioning, operation and decommissioning and closing down of facilities;
- (e) radioactive waste management activities, such as the discharge of effluents;
- (f) the clean up of sites affected by residues from past activities; and
- (g) any activity involving nuclear material as defined in the relevant Safeguards Agreement between Jamaica and the IAEA;

“Agency” or “IAEA” means the International Atomic Energy Agency;

“alpha particle” means a charged particle identical to a helium nucleus, emitted by naturally radioactive nuclei and consisting of two neutrons and two protons;

“approved” means approved by the Authority;

“article” includes a substance or mixture of substances;

“associated experimental facilities”, in relation to a research reactor, means any equipment and apparatus for utilization of the neutrons and other ionizing radiation produced by the research reactor that have the potential to affect its safe operation;

“Authority” means the Hazardous Substances Regulatory Authority established by section 6;

“authorization” means a licence, a permit, an approval, a certificate of registration, or any other form of authority granted by the Authority under this Act;

“authorization holder” means the holder of an authorization granted under this Act;

“authorized officer” means—

- (a) any officer employed to the Port Security Corps or the Jamaica Customs Agency;
- (b) any member of the Jamaica Constabulary Force or the Jamaica Defence Force;
- (c) any person—
 - (i) designated as an Inspector under section 17 of the *Food and Drugs Act*;
 - (ii) authorized by general or special order under section 21(1) or (2) of the *Dangerous Drugs Act*;
 - (iii) appointed as a public health inspector;
- (d) any person or class of persons appointed or authorized by the Minister as an authorized officer for purposes of this Act;
- (e) an inspector; and
- (f) any other person acting in aid of such officer or person acting in the execution of his functions;

“beta particle” means a particle identical to an electron that emanates from an atomic nucleus;

“Board” means the Board of Directors of the Authority established under section 8;

“chairman” means the chairman of the Board;

“clearance” means the removal of radioactive material or nuclear material or radioactive sources, from the control of the Authority in accordance with authorized practices;

“commencement date” means the date of commencement of this Act;

“condition”, in relation to an authorization, includes a limitation or restriction;

First
Schedule.

“Conventions” means the Conventions specified in the First Schedule, and any amendment thereto, as adopted from time to time, by the Government of Jamaica;

“decommissioning” means all steps leading to the release of a facility, other than a disposal facility, from regulatory control, other than confirming the decommissioned status of a facility and the processes of decontamination and dismantling;

“developmental testing operations” means pilot operations for the extraction or processing of ores or minerals for the purposes of evaluating future mining or mineral processing operations;

“Director-General” means the person so appointed under section 11;

“discharges” means planned and controlled releases into the environment, in a manner and within limits authorized by the Authority of liquid or gaseous radioactive material that originates during normal operation from facilities that are regulated under this Act;

“disposal” means the emplacement of spent fuel or radioactive waste in an appropriate facility without the intention of retrieval;

“document” means, in addition to a document in writing, anything in which information of any description is recorded;

“dose” means the total amount of ionizing radiation absorbed by material or tissues;

“effective dose” means the dose prescribed under section 80;

“electron” means a stable subatomic particle with a charge of negative electricity, found in all atoms and acting as the primary carrier of electricity in solids;

“employee” includes an independent contractor, and any employee of an independent contractor, engaged by an authorization holder in relation to matters over which the holder—

- (a) has control; or
- (b) would have had control but for any agreement between the authorization holder and the independent contractor to the contrary;

“enrichment”, in relation to uranium, means alteration of the isotopic composition of uranium;

“environment” includes—

- (a) animals, alive or dead, and their organisms;
- (b) land, air, water, ecosystems and their constituent parts;
- (c) human-made or modified structures or areas; and
- (d) natural and physical resources;

“exclusion” means the deliberate exclusion of a particular category of exposure from the scope of this Act on the grounds that it is not considered amenable to regulatory control;

“exemption” means—

- (a) the determination by the Authority that a source or practice need not be subject to some or all aspects of regulatory control on the basis that—
 - (i) the exposure (or potential exposure) due to the source or practice is too small to warrant the application of those aspects; or
 - (ii) this is the optimum option for protection irrespective of the actual level of the doses or risks; or
- (b) an exemption by the IAEA of certain nuclear material from the application of safeguards;

“export” means the physical transfer of nuclear or other radioactive material from Jamaica to any other State;

“exposure” means the state or condition of being subject to irradiation;

“exposure pathway” means a route by which radiation or radionuclides can reach humans or animals and cause exposure;

“extended shutdown” means the state in which a reactor has been shut down and for which there are no approved plans and no committed resources in place to resume operation or enter decommissioning;

“facilities” means X-ray facilities, nuclear facilities, radiation diagnostic and therapy facilities, radiation installations, radioactive waste management facilities and any other

place where radioactive material or nuclear material or ionizing radiation apparatuses are produced, processed, used, handled, stored or disposed of, or where equipment capable of producing ionizing radiation is installed on such a scale that protection and safety from ionizing radiation is required;

“functions” includes duties and powers;

“gamma ray” means electromagnetic ionizing radiation which originates from the nucleus of an atom but which is not otherwise distinguishable from X-rays;

“Government company” means a company registered under the *Companies Act*, being a company in respect of which the Government or an agency of Government, is in a position to direct the policy of that company;

“handle” includes load, unload, discharge, stack, stow, store, transport, or manipulate by indirect or remote means, or operate in a manner that is incidental to or arises out of those activities;

“import” means the physical transfer of radioactive material, nuclear material or ionizing radiation apparatuses into Jamaica or another State;

“inspector” means a person appointed as an inspector under section 74;

“intervention” means any action intended to reduce or avert exposure (or the likelihood of exposure) to sources where such exposure, is not authorized by the Authority or is out of control as a consequence of an accident;

“in transit” includes any occasion on which, for the purposes of the transfer, any radioactive material or nuclear material or ionizing radiation apparatus remains on board an aircraft, a ship, a motor vehicle or any other form of transportation;

“ionizing radiation” means electromagnetic or particulate radiation capable of producing ions directly or indirectly in passage through matter, but does not include electromagnetic radiation of a wavelength greater than 100 nanometres;

“ionizing radiation apparatus” means apparatus capable of producing ionizing radiation and devices containing radionuclide;

“Jamaica” includes the Exclusive Economic Zone established under section 3 of the *Exclusive Economic Zone Act*;

“low risk”, in relation to any activity or practice, means that the possibility of suffering harm from or loss due to exposure to ionizing radiation is low;

“neutron” means a neutral particle of unit mass that resides in the nucleus of an atom;

“notification” means a document submitted to the Authority by a person to notify an intention to carry out an activity, a practice or any use of radioactive material, nuclear material or an ionizing radiation apparatus;

“nuclear facility” means—

- (a) any facility where activities or practices utilizing nuclear material are conducted;
- (b) for purposes of the application of IAEA safeguards, a facility as defined in the relevant Safeguards Agreement between Jamaica and the IAEA;

“nuclear facility” means—

- (a) plutonium, uranium-233, uranium enriched in the isotopes uranium-233 or uranium-235, or any other material that the Authority determines shall be classified as nuclear material; and

- (b) for purposes of the application of IAEA safeguards, any special fissionable material or source material as defined in the relevant Safeguards Agreement between Jamaica and the IAEA, other than ore or ore residue;

“nuclear or radiation emergency” means an emergency in which there is, or is perceived to be, a hazard due to—

- (a) the energy resulting from a nuclear chain reaction or from the decay of the products of a chain reaction; or
- (b) exposure;

“nuclide” means a form of an atomic nucleus characterized by a specific atomic number and a specific mass number;

“operator” in relation to a facility, means the authorization holder having primary responsibility for the operations carried on at the facility and includes the legal personal representative, administrator or other successor in title of that person;

“orphan source” means a radioactive source which is not under regulatory control, either because it has never been under regulatory control or because it has been abandoned, lost, misplaced, stolen or transferred without proper authorization;

“positron” means a high speed, subatomic particle or corpuscle which is positively charged and which originates from an extra nuclear region of the atom, being the anti-particle of the electron having the same mass and an equal and opposite charge;

“practice” means any human activity that—

- (a) introduces additional sources of exposure or exposure pathways;

- (b) extends exposure to additional persons; or
- (c) modifies the network of exposure pathways from existing sources in a manner that increases the exposure or the likelihood of exposure of persons or the number of persons exposed;

“prescribed activity” means any of the activities or practices set out in the Second Schedule;

Second
Schedule.

“proton” means a nuclear particle of unit mass number, having a charge equal to and opposite to that of an electron;

“radiation” means ionizing and non-ionizing radiation;

“radiation facility” means a facility in which radiation sources are stored or used;

“radiation activities” include all activities carried on within a radiation facility or a facility;

“radiation incident” means a technical event or anomaly involving radiation which, although not directly or immediately affecting safety, may reasonably be expected to result in subsequent re-evaluation of safety provisions by the Authority;

“radiation protection principles” means the fundamental principles of radiation protection set out in section 79;

“radiation source” means a radiation generator, a radioactive source, or other radioactive material;

“radiation worker” means a person who is exposed, or is likely to be exposed, to radiation in the course of his employment;

“radioactive material” means material that may emit ionizing radiation by spontaneous nuclear transformation, but does not include material in respect of which there is an exemption;

“radioactive waste” means material, in whatever physical form, remaining from practices or interventions and for which no further use is foreseen—

(a) that contains or is contaminated with radioactive material and has an activity or activity concentration higher than the level set for clearance subject to an exemption; and

(b) which is not excluded under the regulations;

“Register” means the register of authorization kept under section 49;

“registered medical practitioner” means a medical practitioner registered under the *Medical Act*;

“registered person” means a person to whom a certificate of registration is issued under Part III;

“Registrar” means the person appointed under section 11(1)(b);

“the regulations” means the regulations made under this Act;

“research reactor” means a nuclear reactor used mainly for the generation and utilization of neutron flux and ionizing radiation for research and other purposes including—

(a) the experimental facilities associated with the reactor;

(b) the storage, handling and treatment facilities for radioactive material or nuclear material on the same site that are directly related to the safe operation of the reactor; and

(c) the critical assemblies associated with the research reactor;

“Safety” means the protection of people and the environment against radiation risks, and the safety of facilities and activities that give rise to radiation risks;

“Safeguards Agreement” means the Agreement signed on November 6, 1978 between the Government of Jamaica and the IAEA for the Application of Safeguards in connection with the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Treaty on the Non-Proliferation of Nuclear Weapons and Additional Protocol to the Agreement signed March 19, 2004;

“sealed radioactive source” means radioactive material sealed in a capsule, or closely bound in a solid form, so as to—

- (a) prevent escape or dispersion of the radioactive material; and
- (b) allow the emission of ionizing radiation;

“sealed source device” means equipment or a gauge, instrument or device that contains a sealed radioactive source and permits the controlled emission of radiation, but does not include a container used solely for the storage or transport of a sealed radioactive source;

“security” means the prevention and detection of, and response to, loss, theft, sabotage, damage, unauthorized access, illegal or unauthorized transfer or other unauthorized acts involving radioactive material, nuclear material or other radioactive sources or their associated facilities;

“security enhanced radioactive source” has the meaning prescribed in regulations;

“source” means anything that may cause exposure (such as by emitting ionizing radiation or by releasing radioactive material) and can be treated as a single body for protection and safety purposes;

“spent fuel” means nuclear fuel that has been irradiated in and permanently removed from a reactor core;

“transport” means all operations and conditions associated with the movement of radiation sources or other radioactive material or nuclear material and includes the design, manufacture, maintenance and repair of packaging, and the preparation, consigning, loading, carriage, in-transit storage, unloading and receipt at the final destination of loads of the material and packages;

“Tribunal” means the Hazardous Substances Appeal Tribunal established under section 73;

“X-ray” means electromagnetic, ionizing radiation which originates from the field outside the nucleus of the atom and results from the loss of energy of charged particles.

Meaning of
“fit and proper
person”.

3. In determining, for the purposes of this Act, whether a person is a fit and proper person to hold an authorization, the Authority may take into consideration any one or more of the following—

- (a) whether the person (or any director of the person in the case of a body corporate) has contravened relevant legislation, or has held a licence or other form of approval that has been suspended or cancelled under relevant legislation;
- (b) whether, if the person is a body corporate, a director of the body corporate is or has been the director of another body corporate that has contravened relevant legislation, or has held a licence or other form of approval that has been suspended or cancelled under relevant legislation;
- (c) the record of compliance with relevant legislation of the person (and each director of the person in the case of a body corporate);
- (d) whether, in the opinion of the Authority, any dealings of the person with radioactive material or nuclear material

under a licence or other form of approval or authority will or will not be in the hands of a technically competent person;

- (e) whether, in the opinion of the Authority, the person (and each director of the person in the case of a body corporate) is of good repute, having regard to character, honesty and integrity;
- (f) whether the person (or any director of the person in the case of a body corporate), in the previous ten years,—
 - (i) has been convicted of an offence involving fraud, dishonesty or other behaviour that the Authority considers would render the person unfit to hold an authorization;
 - (ii) or has been subject to a finding of professional misconduct or unsatisfactory professional conduct by a body that regulates, or investigates complaints about, registered medical practitioners, other registered health professionals or any other professional registered under an enactment;
- (g) whether the person, including the history of the person's financial dealings, demonstrates to the Authority the financial capacity and inclination to comply with the person's obligations under the authorization or the proposed authorization;
- (h) whether the person is in partnership with a person whom the Authority does not consider to be a fit and proper person under this section; and
- (i) any other ground that the Authority considers appropriate.

Objects of
Act.

4. The objects of this Act are to—

- (a) protect people and the environment from exposure to ionizing radiation to the maximum extent that is reasonably practicable taking into account social and economic factors and recognizing the need for the use of ionizing radiation for beneficial purposes;
- (b) secure radioactive sources from misuse that may result in harm to people or the environment;
- (c) promote the radiation protection principles and an effective nuclear safety culture;
- (d) provide compensation for damage, loss and injuries caused by ionizing radiation;
- (e) allow for the beneficial and peaceful uses of nuclear technology;
- (f) achieve and maintain a high level of safety and security in facilities;
- (g) establish and maintain the Authority with sufficient independence and authority to effectively perform the functions set out in this Act; and
- (h) facilitate Jamaica's compliance with international obligations arising under the Conventions.

Application of
Act.

5.—(1) This Act applies to—

- (a) the possession, acquisition, production, manufacture, processing, transfer, development, handling, use, holding, storage, transport, import, export or disposal of natural and artificial radioactive material, nuclear material, ionizing radiation apparatus and devices emitting ionizing radiation;

- (b) the construction and operation of facilities;
- (c) all activities and practices involving the peaceful use of nuclear technology and ionizing radiation conducted in Jamaica;
- (d) non-nuclear material, which has properties which may be used in connection with nuclear technology, in cases where its properties are particularly suited for obtaining ionizing radiation;
- (e) devices and equipment intended or otherwise particularly suited for use in facilities or in the manufacture of nuclear material;
- (f) nuclear information that is in written or other physical form and not generally available; and
- (g) the export and import of ores containing uranium or thorium.

(2) Nothing in this Act applies to a practice or a source within a practice which is exempted by the Authority from the requirements of this Act or the regulations if the Authority is satisfied that the practice or source meets the exemption criteria or the exemption levels specified by this Act or the regulations or other exemption levels specified by the Authority.

(3) The Authority may, on the request in writing of the Defence Board, exempt the Jamaica Defence Force from the application of any or all of the provisions of this Act and such exemption may be subject to such conditions and may be for such duration as the Authority shall determine.

PART II—*Administration*

Establishment and Functions of Authority

Establishment
of Authority.

6.—(1) There is established for the purposes of this Act, a body to be called the Hazardous Substances Regulatory Authority which

shall be a body corporate to which the provisions of section 28 of the *Interpretation Act* shall apply.

Part I.
Third
Schedule.

(2) Part I of the Third Schedule shall have effect as to the constitution of the Authority and otherwise in relation thereto.

Functions of
Authority.

7.—(1) The Authority shall—

- (a) regulate and monitor the activities, practices and facilities involving ionizing radiation and nuclear technology for the protection of the health, safety and security of persons, property and the environment from the harmful effects of radiation;
- (b) grant, renew, amend, suspend or revoke authorizations and set conditions for activities, practices and facilities involving ionizing radiation and nuclear technology;
- (c) advise the Minister on the development of national policies and measures for the regulatory control of activities, practices and facilities;
- (d) inspect, monitor and assess activities, practices and facilities for the purpose of verifying compliance with this Act, the regulations and the terms and conditions of authorizations; and
- (e) take enforcement measures in the event of threatened or actual non-compliance with this Act, the regulations or the terms and conditions of authorizations.

(2) The Authority shall—

- (a) advance public health and establish standards for the protection of individuals, society and the environment from potential adverse effects of ionizing radiation and nuclear technology;
- (b) specify the obligations, including insurance obligations of authorization holders;

- (c) ensure that corrective actions are taken if unsafe or potentially unsafe conditions are detected at any location where authorized activities are conducted;
- (d) ensure and confirm, as necessary, the competence of personnel responsible for the safety and security of activities, practices and facilities;
- (e) introduce cost recovery measures, whether by way of fees or otherwise, for services provided by or on behalf of the Authority;
- (f) obtain the advice or views of experts necessary for the performance of its functions through the hiring of consultants, the contracting of specific projects, or the establishment of permanent or *ad hoc* advisory bodies;
- (g) prescribe the exposures of persons to ionizing radiation that are excluded from the scope of application of this Act;
- (h) establish and maintain a national register of radiation sources;
- (i) in accordance with section 49, establish and maintain a national register of authorization holders;
- (j) cooperate with the IAEA in the application of safeguards in accordance with the Safeguards Agreement, and any protocols thereto, between Jamaica and the IAEA, including conducting inspections and visits, carrying out complementary access and providing any assistance or information required by designated IAEA inspectors in the fulfillment of their responsibilities;
- (k) establish and maintain a national system of accounting for, and control of, nuclear material and a national system for the registration of authorizations for nuclear material,

and establish the necessary reporting and record keeping and requirements under the Safeguards Agreement, and any protocols thereto, between Jamaica and the IAEA;

- (1) establish and implement, in cooperation with the Jamaica Customs Agency, a system of control for the export and import of radioactive material or nuclear material, sources, equipment, information and technology determined to be necessary to implement the relevant international commitments of Jamaica;
- (m) establish regulatory measures for the security of radioactive material or nuclear material, and their associated facilities, including measures for the detection, prevention and response to unauthorized or malicious acts involving the material or facilities;
- (n) participate in the definition of the design basis threat for the implementation of security provisions and determine whether or not to approve it;
- (o) cooperate with other relevant agencies of Jamaica in establishing and maintaining a plan for preparedness for and response to emergencies involving radioactive material or nuclear material in accordance with the national emergency response plan;
- (p) communicate directly with other public bodies in all circumstances in which it considers it necessary for the effective exercise of its functions;
- (q) carry out or arrange for the conduct of research on radiation safety and security necessary to implement its functions;
- (r) cooperate with other public bodies or non-governmental bodies having competence in areas such as health and safety, environmental protection, security and the transportation of dangerous goods;
- (s) exchange information and cooperate with regulatory

bodies in other States and with relevant international organizations concerning matters arising from the exercise of its functions;

- (t) establish appropriate mechanisms and procedures for informing and consulting the public and other stakeholders about the regulatory process and the safety, security, health and environmental aspects of prescribed activities, practices and facilities, including incidents, accidents and abnormal occurrences;
- (u) obtain information, documents and opinions from public bodies or persons as may be necessary and appropriate for the conduct of its functions; and
- (v) perform such other functions pertaining to nuclear safety and radiation protection as may be assigned to it by the Minister or by or under this Act, the regulations or any other enactment.

Board of Directors

Establishment
of Directors.

8.—(1) There is established for the purposes of this Act, a Board of Directors of the Authority which shall, subject to the provisions of this Act, be responsible for the policy and general administration of the affairs of the Authority.

Part II.
Third
Schedule.

(2) The provisions of Part II of the Third Schedule shall have effect as to the constitution of the Board and otherwise in relation thereto.

Functions of
Board.

9. The Board shall—

- (a) monitor the administrative operations of the Authority;
- (b) advise the Minister in relation to the formulation of—
 - (i) the regulations; and
 - (ii) radiation protection codes and standards;
- (c) provide technical advice to the Minister on radiation protection and safety relating to human health and the environment;

- (d) investigate and report on any other matters relevant to the administration of this Act at the request of the Minister or of its own initiative; and
- (e) perform such other functions as may be assigned to it by the Minister or by or under this Act or any other enactment.

10. The Minister may, after consultation with the chairman, give to the Board such directions of a general character as to the policy to be followed by the Board in the performance of its functions as appear to the Minister to be necessary, and the Board shall give effect thereto.

Ministerial
directions.

Administration

11.—(1) Subject to subsection (3), for the due administration of the Authority, the Minister may appoint and employ at such remuneration and on such terms and conditions as he thinks fit, a Director-General and a Registrar who shall exercise the functions set out in section 13.

Appointment
of Director-
General and
staff.

(2) Subject to subsection (3), the Authority shall appoint and employ, at such remuneration and on such terms and conditions as it thinks fit, such officers, employees and agents as may be necessary for the efficient operation of the Authority.

(3) No salary in excess of the prescribed rate shall be assigned without the prior approval of the Minister responsible for the public service.

(4) For the purposes of subsection (3), the “prescribed rate” means such rate as the Minister responsible for the public service may by order, prescribe.

(5) The Authority may engage experts from outside its permanent staff as advisers, consultants or reviewers to assist in the conduct of its regulatory functions.

(6) The use of advisory bodies or outside experts shall not relieve the Authority of its responsibilities under this Act, the regulations or any other enactment.

(7) The Authority shall ensure that technical support received from other entities or experts is provided in a manner that avoids any conflicts of interest or improper influence on its decision-making.

Pensions,
gratuities and
other retiring
benefits.

12. The Authority may, with the approval of the Minister responsible for the public service—

- (a) enter into arrangements respecting schemes, whether by way of insurance policies or otherwise; and
- (b) make regulations,

for medical benefits, pensions, gratuities and other retiring benefits or disability or death benefits, relating to officers and employees of the Authority and such arrangements or regulations may include provisions for the grant of benefits to the dependants and the legal personal representatives of such officers and employees.

Functions of
Director-
General and
Registrar.

13.—(1) The Director-General shall—

- (a) carry out the directives of the Board;
- (b) direct the technical activities and administrative operations of the Authority;
- (c) make recommendations to the Board concerning safety standards and regulatory practices;
- (d) carry out such functions relating to the grant of authorizations or exemption from authorization, as are required by this Act;
- (e) carry out or cause to be carried out, as often as necessary, inspections of facilities and the surrounding environment;
- (f) collect all necessary information and conduct such audits and reviews as are necessary for the purposes of this Act;
- (g) recommend to the Board and implement on the Authority's behalf, appropriate emergency responses to all ionizing

radiation hazards, radiation accidents and radiation incidents which may adversely affect Jamaica;

- (h) when so requested by the Board, give advice to the Board in respect of all matters relating to ionizing radiation and nuclear safety and security; and
- (i) perform such other functions as are assigned to the Director-General or required under this Act.

(2) The functions of the Registrar shall be to—

- (a) keep and maintain up-to-date the Register; and
- (b) perform such other functions as are assigned to the Registrar by the Board or required by or under this Act, the regulations or any other enactment.

14.—(1) Subject to subsection (2), the conferral of powers of investigation upon the Authority by this Act shall not be construed as affecting the exercise of any functions relating to the investigation or prosecution of offences or other unlawful conduct conferred upon any other authority (hereinafter called an “investigative authority”), whether the functions are similar to those powers or not.

Cooperation
between
Authority and
other
authorities.

(2) Every investigative authority shall, in the exercise of its functions, cooperate with the Authority.

(3) The Authority shall cooperate with an investigative authority in the exercise of any functions conferred on the investigative authority.

(4) The Authority may provide copies of any documents and share any other information which it receives arising from the performance of its functions under this Act, with any investigative authority.

(5) The Authority may cooperate, and its cooperation may include the provision of copies of any documents and the sharing of other information referred to in subsection (4), with any law

enforcement agency or regulatory authority in a jurisdiction outside Jamaica where the Authority is satisfied that the law enforcement agency or regulatory authority has requested cooperation, and will use documents provided or other information shared, in furtherance of those responsibilities relating to ionizing radiation, nuclear technology, weapon of mass destruction or the proliferation or financing thereof and for no other purpose.

(6) For the purpose of implementing this Act and solving cases of emergencies or disasters, the Authority shall provide or receive full assistance and cooperation to the respective national authorities of State Parties to the Conventions and the IAEA, including disclosure of information and documents, whether domestically or internationally.

Obligation of
Secrecy.

15.—(1) Subject to section 14, every person having an official duty or being employed in the administration of this Act shall regard and deal with as secret and confidential, all information, books, records or other documents relating to the functions of the Authority, in accordance with the provisions of the *Official Secrets Act* or any other law in force dealing with secrecy of government information.

(2) Every person who had an official duty or was employed in the administration of this Act shall maintain, after such duty or employment is terminated, the secrecy and confidentiality of all information, books, records or other documents relating to the functions of the Authority, in accordance with the provisions of the *Official Secrets Act* or any other law in force dealing with secrecy of government information.

(3) Any person to whom information is communicated pursuant to this Act shall regard and deal with such information as secret and confidential, save in the case of an investigative authority referred to in section 14 or to the extent otherwise provided in any other law.

(4) Every person referred to in subsection (1), (2) or (3) having possession of or control over any information, book record or other document, who at any time communicates or attempts to communicate any such information or anything contained in such book, record or document to any person, otherwise than for the purposes of this Act or—

(a) to any person, other than—

(i) an officer nominated by the Authority; or

(ii) an investigative authority, or a law enforcement agency or regulatory authority in a jurisdiction outside Jamaica referred to in section 14(4);
or

(b) otherwise than pursuant to a court order,

commits an offence.

16.—(1) No civil or criminal action, suit or other proceedings for breach of confidentiality may be brought, nor any professional sanction for such breach may be taken, against any person, who in good faith (under this Act or any other enactment) provides or transmits to the Authority information requested by the Authority or submits a report to the Authority.

Protection
from liability.

(2) No suit or other proceedings may be brought or instituted personally against any officer, employee or agent of the Authority in respect of any lawful act done or omission made in good faith, in the course of carrying out the functions of this Act.

17.—(1) The Authority shall, within four months after the end of each financial year, or within such longer period as the Minister may approve in special circumstances, cause to be made and submit to the Minister a report—

Annual
reports *etc.*

(a) dealing generally with the proceedings and activities of the Authority during the preceding financial year; and

- (b) containing the information relating to the proceedings, activities and policy of the Authority as can be made public without detriment to the national interest.

(2) The Minister shall cause a copy of the report together with the annual statement of accounts and the author's report thereon to be laid on the table of the House of Representatives and the Senate.

PART III—*Prohibition and Restriction on Ionizing
Radiation and Nuclear Activities in
Jamaica*

Restriction on
operation of
ionizing
radiation
apparatus.

18.—(1) A person shall not operate ionizing radiation apparatus unless the person is granted an authorization by the Authority.

(2) Subsection (1) does not apply to a person or an apparatus that the Authority has prescribed as being exempt from that subsection.

(3) A person who contravenes subsection (1) commits an offence.

Restriction on
possession of
radiation
source.

19.—(1) A person shall not be in possession of an ionizing radiation source unless the person is granted an authorization to do so by the Authority.

(2) Subsection (1) does not apply—

- (a) in prescribed circumstances; or
- (b) to or in relation to a person or thing of a prescribed class.

(3) A person who contravenes subsection (1) commits an offence.

Requirement
for registra-
tion of ionizing
radiation
apparatus.

20.—(1) The owner of an ionizing radiation apparatus not being of a prescribed class shall apply to the Authority for registration of the apparatus.

(2) Subsection (1) shall not apply in the case of an apparatus that the Authority has prescribed as being exempt from that subsection.

(3) If an ionizing radiation apparatus is not registered as required by subsection (1), the owner of the apparatus commits an offence.

(4) If the Authority refuses to register an ionizing radiation apparatus, the Minister may, by notice in writing, forfeit the ionizing radiation apparatus to the Crown, in accordance with this Act and the regulations.

21. An owner of an ionizing radiation apparatus who causes, suffers or permits the ionizing radiation apparatus to be operated by a person who is required to hold, but does not hold, an authorization to operate the apparatus, commits an offence.

Causing, etc.
ionizing
radiation
apparatus to
be operated
without
authorization.

22.—(1) A person shall not cause any radioactive material or nuclear material to be transported otherwise than pursuant to an authorization to do so and in accordance with this Act and the regulations.

Restriction on
transport of
radioactive
material, etc.

(2) A person who contravenes subsection (1) commits an offence.

23.—(1) A person shall not import—

- (a) radioactive waste generated outside of Jamaica into Jamaica for any purpose; or
- (b) any goods which have been contaminated with radioactive material into Jamaica for any purpose if the level of contamination exceeds the prescribed threshold.

Prohibition on
import of
radioactive
waste.

(2) A person who contravenes subsection (1) commits an offence.

Restriction on
operation, *etc.*
of research
reactor.

24.—(1) Except in accordance with an authorization granted under this Act, a person shall not build, import, export or operate a research reactor.

(2) A person who contravenes subsection (1) commits an offence.

Prohibition on
acquisition or
development
of nuclear ex-
plosives, *etc.*

25.—(1) A person shall not engage in any activity or practice related to the acquisition or development of nuclear explosives, radiological dispersal devices, or other non-peaceful uses of radioactive material or nuclear material or assist any other person in such activity or practice.

(2) The Authority shall not grant an authorization in respect of any activity or practice mentioned in subsection (1).

(3) A person who contravenes subsection (1) commits an offence.

Prohibition on
developing,
etc. radio-
active material
for producing
weapons.

26.—(1) A person shall not—

- (a) develop, produce, otherwise acquire, stockpile or retain radioactive material or nuclear material for the purpose of producing a weapon;
- (b) transfer, directly or indirectly, radioactive material or nuclear material to another person for the purpose of producing a weapon;
- (c) engage in any military preparations to use radioactive material or nuclear material; or
- (d) assist, encourage or induce, in any way, another person to engage in any activity in which a State Party is prohibited from engaging under the Conventions.

(2) A person who contravenes subsection (1) commits an offence.

Prohibition on
certain nuclear
installations.

27.—(1) A person shall not construct or operate any of the following nuclear installations—

- (a) a nuclear fuel fabrication plant;

- (b) a nuclear power plant;
- (c) an enrichment plant; or
- (d) a reprocessing facility.

(2) The Authority shall not grant an authorization under this Act in respect of any of the nuclear installations mentioned in subsection (1).

(3) A person who contravenes subsection (1) commits an offence.

28.—(1) Without prejudice to the provisions of the *Mining Act* or any regulations made thereunder, a person shall not carry out developmental testing operations involving or in relation to mining or mineral processing where a prescribed radioactive material or nuclear material is present unless the operations are authorized by an authorization granted by the Authority. Restriction on testing for developmental purposes.

(2) Subsection (1) does not apply to operations that the Authority has prescribed as being exempt from that subsection.

(3) A person who contravenes subsection (1) commits an offence.

(4) An authorization shall specify the operations to which it applies and the places at which those operations may be carried out.

29.—(1) Without prejudice to the provisions of the *Mining Act* or any regulations made thereunder, a person shall not carry out operations for or in relation to mining or mineral processing where radioactive material or nuclear material is present or will be produced unless the operations are authorized by an authorization granted by the Authority. Restriction on or mining mineral processing.

(2) Subsection (1) does not apply to operations that the Authority has prescribed as being exempt from that subsection.

(3) A person who contravenes subsection (1) commits an offence.

(4) An authorization shall specify the operations to which it applies and the places at which those operations may be carried out.

Restriction on use or handling of radioactive material.

30.—(1) Subject to subsection (3), a person shall not use or handle radioactive material or nuclear material unless that use or handling thereof is authorized by an authorization granted by the Authority.

(2) Subsection (1) does not apply to operations that the Authority has prescribed as being exempt from that subsection.

(3) The Authority shall not grant an authorization for a person to use or handle radioactive material or nuclear material unless the Authority is satisfied that the applicant has appropriate knowledge of the principles and practices of radiation protection to carry on the activities and practices proposed to be carried on by the applicant under the authorization.

(4) A person who contravenes subsection (1) commits an offence.

Offence for owner to cause, suffer or permit unlicensed person to use or handle radioactive material, etc.

31.—(1) If the owner of radioactive material or nuclear causes, suffers or permits the radioactive material or nuclear material to be used or handled by a person who is required to hold but does not hold, an authorization to use or handle the radioactive material or nuclear material, the owner commits an offence.

(2) Subsection (1) shall not apply to a person or class of person that the Authority has prescribed as being exempt from that subsection.

Requirement for registration of premises.

32.—(1) A person shall not cause or permit radioactive material or nuclear material to be kept or handled in any premises unless the owner of the premises has consented in writing thereto.

(2) The occupier of premises in which radioactive material or nuclear material is kept or handled shall register the premises with respect to the radioactive material or nuclear material

and in relation to such registration the occupier of the premises shall be the registrant.

(3) If consent is not obtained as required by subsection (1) or if the premises are not registered as required by subsection (2), the occupier of the premises commits an offence.

(4) Subsection (1) does not apply to premises or a substance that the Authority has exempt from that subsection.

(5) The Authority shall not register premises unless satisfied that the premises comply with the regulations.

33.—(1) A person shall not prepare a site for, or construct, establish, control, operate, manage, decommission, dispose of or abandon, a facility unless authorized to do so by an authorization granted by the Authority. Restriction on operation of facilities.

(2) Subsection (1) does not apply to a person who the Authority has prescribed as being exempt from that subsection.

(3) A person who contravenes subsection (1) commits an offence.

34.—(1) The owner of a sealed radioactive source shall register the source in the name of the owner of the source. Registration of sealed radioactive source, etc.

(2) The owner of a sealed radioactive source who contravenes subsection (1) commits an offence.

(3) The Authority shall not register a sealed radioactive source unless it is satisfied that the source has been constructed, contained, shielded and installed in accordance with this Act and the regulations.

(4) If the Authority refuses to register a sealed radioactive source, the Authority may, by notice in writing, forfeit the source to the Crown, in accordance with this Act.

35.—(1) If the Authority has reason to believe that a person may pose a threat to the security of a security enhanced radioactive Protection of security enhanced radioactive source, etc.

source or any nuclear material because the person has failed to pass a security background check—

- (a) the Authority shall, as soon as is practicable, give the person a direction that the person shall not—
 - (i) obtain or access, or attempt to obtain or access, a security enhanced radioactive source or any nuclear material; or
 - (ii) deal in any way with a security enhanced radioactive source or any nuclear material; and
- (b) the Authority may give the person a direction placing such other restrictions on the person's activities involving security enhanced radioactive sources or any nuclear material as the Authority considers necessary to maintain the security of the sources or nuclear material.

(2) Directions under subsection (1) shall be given by notice in writing served on the person to whom they are directed.

(3) A person commits an offence if the person contravenes a direction given to the person under subsection (1).

Abandoning
radiation
source.

36.—(1) A person shall not abandon a radiation source.

(2) A person who contravenes subsection (1) commits an offence.

(3) A person shall not be regarded as having committed an offence under subsection (1) if—

- (a) the abandonment is due to an emergency or other exigency such that it is reasonably necessary for the person to have abandoned the radiation source in the circumstance;
- (b) the person notified the Authority before or as soon as was reasonably practicable after the commencement of the abandonment and in any event not later than seventy-two hours after the commencement of the abandonment.

(4) The Authority may take any reasonable step as may be required to mitigate the risk associated with the abandoned source

and shall be entitled to recover all reasonable cost and expenses in so doing from the person referred to in subsection (1).

37.—(1) A person shall not dispose of any radioactive material or nuclear material except in accordance with an authorization granted by, and in accordance with any conditions imposed therein by, the Authority.

Disposal of
radioactive
material, etc.

(2) A person who contravenes subsection (1) commits an offence.

(3) A person shall not dispose of any ionizing radiation apparatus unless the ionizing radiation apparatus has been rendered permanently inoperable and the disposal is carried out in a safe manner and in accordance with the regulations or any guidelines issued by the Authority.

(4) A person who contravenes subsection (3) commits an offence.

*Application, Grant, Refusal, Renewal, Variation,
Surrender, Suspension and Revocation of
Authorization*

38.—(1) Every person who engages or proposes to engage in a prescribed activity shall apply, subject to subsection (4), in the prescribed form and manner to the Authority for the appropriate authorization.

Application
for authoriza-
tion.

(2) An application under subsection (1) shall be accompanied by the prescribed application fee.

(3) The Authority may require the applicant to provide any further information that it considers necessary to determine the application.

(4) The Authority may require or permit an application, notice or report that is to be given to the Authority for the purposes of this Act to be given in accordance with specified software requirements and specified authentication requirements.

39.—(1) Upon receipt of an application under section 38, the Authority—

Grant or
refusal of
authorization.

(a) shall cause an inspector to carry out an inspection of any facility to which the application relates; and

- (b) may invite, within such period as the Authority may specify, the written comments or recommendations of such public body as the Authority thinks appropriate.

(2) The inspector shall submit to the Authority a report in the prescribed form in respect of any inspection carried out under subsection (1).

(3) Upon receipt of the report and any written comments or recommendations, the Authority may—

- (a) grant the authorization, upon payment of the fee prescribed in relation to the prescribed activity; or
- (b) refuse to grant the authorization on any of the grounds set out in section 43.

(4) Where the Authority refuses to grant an authorization under this Act, it shall so inform the applicant, in writing, stating the reasons for the refusal and the right of appeal conferred by section 74.

(5) An authorization shall specify the place to which it may apply.

Conditions
generally.

40.—(1) An authorization granted under section 39 shall be subject to such terms and conditions as may be specified in the authorization, including the following—

- (a) conditions that relate to the control or management of the radioactive material, nuclear material or ionizing radiation apparatus;
- (b) conditions that relate to the places at which the radioactive material, nuclear material or ionizing radiation apparatus is kept or used;
- (c) conditions that relate to the equipment used in conjunction with radioactive material, nuclear material or ionizing radiation apparatus;
- (d) conditions that require the carrying out of works or programmes (such as the securing, storage or disposal of

radioactive material or nuclear material or remediation, clean-up or improvement works with respect to radioactive material or nuclear material);

- (e) conditions to secure or guarantee funding for or towards the carrying out of any such works or programmes;
- (f) financial assurance under section 41; and
- (g) such other conditions as the Authority considers necessary.

(2) A condition imposed under this Part that specifies a time by which, or a period within which, the condition shall be complied with continues to have effect until the condition is complied with or revoked even though the time has passed or the period has expired.

41.—(1) Subject to this section, the Authority may impose a condition on an authorization requiring the authorization holder to lodge with the Authority a financial assurance (in the form of a bond supported by a bank guarantee or other security approved by the Minister responsible for finance acceptable to the Authority), the discharge of which is conditional on specified conditions of the authorization being complied with.

Authority may
require
financial
assurance.

(2) The Authority shall not impose a condition on an authorization requiring the lodgement of a financial assurance unless the Authority is satisfied that the condition is justified in view of the nature of the authorization and the degree of harm to the environment or to the health or safety of people that could result if the conditions of the authorization for which the financial assurance is to be required are not complied with.

(3) The amount of a bond that the Authority may require as a financial assurance shall not exceed an amount that, in the opinion of the Authority, after consultation with the Minister responsible for finance, represents the total of the likely costs and expenses that might be incurred in complying with the conditions of the authorization for which the financial assurance is required.

(4) Despite any other provision of this Act, if an applicant for the grant of an authorization is not willing to accept an authorization subject to a condition requiring the lodgement of a financial assurance, the Authority may refuse to grant an authorization to the applicant.

(5) If the conditions of an authorization for which a financial assurance has been required are not complied with—

- (a) the Authority may determine that the whole or part of the amount of the bond is forfeited to the Crown in accordance with this Act; and
- (b) the Authority may apply an amount so forfeited in payment for or towards any costs, expenses, loss or damage that may be incurred or suffered as a result of the conditions of the authorization not being complied with.

Non-transfer-
ability and
validity of
authorization.

42. An authorization granted under this Act shall not be transferable and shall be valid for such period as is specified in the authorization.

Grounds for
refusal of
authorization.

43.—(1) The Authority may refuse to grant an authorization under this Act—

- (a) where, in the opinion of the Authority, the grant of the authorization would not be in the public interest, having regard to such factors as the Authority considers relevant or as may be prescribed;
- (b) where an application contains or is based on a false or misleading representation or information which is false in a material particular;
- (c) to an individual who—
 - (i) is under the age of eighteen (18) years;
 - (ii) is an undischarged bankrupt; or

- (iii) has been convicted, during the period of five years immediately preceding the application, of an offence specified in subsection (4);
- (d) to a body corporate—
 - (i) in respect of which a resolution has been passed for voluntary winding up or an order has been made by a court of competent jurisdiction for its winding up;
 - (ii) in respect of which a receiver has been appointed to manage any of its assets;
 - (iii) any of whose directors, secretary or senior management has been convicted of an offence specified in subsection (4) during the period of five years immediately preceding the application; or
 - (iv) which has been convicted during the period of five years immediately preceding the application of an offence specified in subsection (2);
- (e) if, in the opinion of the Authority, the applicant is not a fit and proper person to be granted the authorization within the meaning of section (3); or
- (f) where the Authority is not satisfied that the applicant has appropriate knowledge of the principles and practices of ionizing radiation protection to operate the ionizing radiation apparatus;

(2) The Authority shall not grant a licence unless satisfied that—

- (a) the applicant has appropriate knowledge of the principles and practices of radiation protection to have possession of the radiation source in the circumstances to which the licence is to relate; and

- (b) any requirement prescribed by the regulations is complied with or satisfied;

(3) The Authority shall not register an ionizing radiation apparatus unless satisfied that the apparatus has been constructed, shielded and installed in accordance with the regulations and the appropriate international standards.

(4) The Authority shall not grant an authorization under this Act unless the Authority is satisfied that the proposed operations would comply with the regulations.

(5) The offence referred to in subsection (1) is—

- (a) an offence against this Act or the regulations;
- (b) an offence punishable by a term of imprisonment exceeding six months.

Renewal of
authorization.

44.—(1) An authorization granted under this Act may be renewed by the Authority upon payment of the prescribed fee if—

- (a) the application for the renewal of the authorization is made in the prescribed manner not later than thirty days before the expiry of the authorization, or within such longer period as the Authority may allow;
- (b) the Authority is satisfied that the authorization holder is operating in compliance with the provisions of the Act or the regulations;
- (c) the applicant has paid all fees payable to the Authority under this Act or the regulations;
- (d) there has been no material change in the circumstances which existed at the time the authorization was granted; and
- (e) the applicant has not been convicted of an offence specified in section 43(4) or in the case of a body corporate, a director or the secretary thereof a member of its senior management has not been convicted of such an offence.

(2) Where the Authority—

- (a) receives an application for the renewal of an authorization after the period specified in subsection (1)(a); or
- (b) is satisfied that a material change of circumstances has occurred since the authorization has been granted,

it shall treat the application as a new application, and accordingly, the provisions of sections 38 to 43 shall apply.

45.—(1) The Authority may vary an authorization on its own initiative or on the application of the authorization holder. Variation of authorization.

(2) A variation shall take effect when the authorization holder is given notice in writing of the variation or, if a later time is specified in the notice, at that later time.

(3) An authorization may be varied so that it relates to radioactive material, nuclear material or an ionizing radiation apparatus to which it did not relate before the variation.

(4) A variation may involve the imposition, modification or the revocation, of a condition of the authorization.

46.—(1) Subject to subsection (2), the Authority may suspend an authorization if— Suspension of authorization.

- (a) the authorization has failed to pay any fees or other charge required by this Act or the regulations;
- (b) the authorization holder is in breach of—
 - (i) any provision of this Act or the regulations; or
 - (ii) any term or condition subject to which the authorization is granted;
- (c) the Authority is satisfied that it is not possible to carry out a proper inspection of the facility to which the authorization relates;
- (d) the authorization holder notifies the Authority, in writing, that the holder intends to cease operations for which the holder is authorized, whether indefinitely, or for the period stated in the notice.

(2) Before suspending an authorization under subsection (1), the Authority shall notify the authorization holder in writing of the proposed suspension—

- (a) stating the reasons therefor; and
- (b) requiring the authorization holder, in the case of a breach, to remedy the breach within the time specified in the notice unless the breach is not reasonably capable of being remedied, in which case the suspension shall have immediate effect.

(3) Where a notice referred to in subsection (2) requires the authorization holder to remedy the breach which gave rise to the suspension, the authorization holder shall, after remedying the breach, notify the Authority, in writing that the breach has been remedied.

(4) The Authority shall, upon receipt of a notice from the authorization holder pursuant to subsection (3), cause an inspection to be carried out within ten days of the receipt of the notice, or forthwith as the case may require, and if, on inspection, the inspector is satisfied that the breach has been remedied, the inspector shall report in writing to the Authority which may withdraw the notice of suspension.

Revocation of
authorization.

47.—(1) The Authority may revoke an authorization, where it is satisfied that—

- (a) the authorization holder is dead;
- (b) since the grant of the authorization, the authorization holder has suffered from or is suffering from a mental or physical condition, which renders him incapable of properly carrying out the activities or practices to which the authorization relates;
- (c) the application for an authorization, or any communication in relation to the authorization, contained any deliberately

false or misleading information or omitted any material particular;

- (d) the authorization holder has failed to remedy the breach which gave rise to the suspension of the authorization under section 46 within the time specified in a notice under subsection (2) of that section;
- (e) the nature and scope of the operations of a facility have been so altered as to cause the area approved for radiation activity to cease to operate as a facility for the purposes of this Act;
- (f) any fee or other charge payable by the authorization holder remains unpaid for a period of ninety days after the suspension of the authorization; or
- (g) any of the grounds referred to in section 43(1) apply to the authorization holder.

(2) Before revoking an authorization under subsection (1), the Authority shall notify the authorization holder in writing of the proposed revocation, stating the reasons therefor.

(3) Where an authorization is revoked pursuant to this section, the authorization shall be returned forthwith to the Authority.

48.—(1) The Authority shall keep or cause to be kept, in electronic form or otherwise, such documents or record, as may be prescribed. Records.

(2) The contents of every register, book, document or other record may be evidenced in any proceedings by a certificate under the hand of the Registrar, and the certificate shall be *prima facie* evidence of the matters stated therein.

(3) A certificate under the hand of the Registrar stating that on a date specified in the certificate any person named therein did or did not appear in any register as the holder of an authorization

or any specified class of authorization shall, unless the contrary is proved, be sufficient evidence of the matters specified therein.

Register of
Authorizations.

49.—(1) The Registrar shall keep or cause to be kept for the purposes of this Act, a register of authorizations granted under this Act which shall be known as the Register of Authorizations.

(2) The Register shall contain the following information in relation to each authorization—

- (a) the name of the authorization holder;
- (b) the type and registration number of the authorization;
- (c) the date of grant, and the expiry date, of the authorization;
and
- (d) any other particulars that the Registrar thinks necessary.

(3) The Register may also contain such information as may be prescribed in relation to any authorization that is varied, suspended, revoked or surrendered.

(4) Where a person is granted an authorization, the Registrar shall forthwith cause particulars of the grant (including particulars of the day on which the grant takes effect) to be entered in the Register.

(5) Where an authorization granted to a person is revoked, expires or otherwise ceases to have effect, the Registrar shall forthwith cause particulars of the revocation, expiration or cessation (including particulars of the day on which the revocation, expiration or cessation takes effect) to be entered in the Register.

(6) The Register shall be kept in such form as the Authority thinks appropriate, including by electronic means.

(7) The Registrar may correct clerical errors in the Register.

50.—(1) Subject to any direction given by the Authority, information on the Register shall be made available for inspection in accordance with this section in any way the Registrar thinks appropriate, including on a website maintained by the Authority. Inspection of Register.

(2) The Authority shall make the Register available to members of the public to inspect free of charge—

- (a) at its principal office during ordinary office hours; and
- (b) on its website.

(3) The Authority may charge a fee for providing a person with a copy of the register or part of the register or for making the register available for inspection at some other place.

(4) A list of authorizations granted shall be published on a website maintained by the Authority.

51.—(1) The Authority shall establish a system for the authorization of persons to conduct any activity or practice associated with the operation of facilities. System for operator authorizations.

(2) The system established by the Authority under subsection (1) shall include—

- (a) a categorization of authorizations for relevant activities, practices and facilities;
- (b) identification of the training necessary for the authorizations, including the responsibilities of the operator;
- (c) criteria for the issuance of relevant authorizations;
- (d) a programme for the examination of applicants for operator authorizations;
- (e) a system for recording authorizations granted; and
- (f) the terms of validity of relevant authorizations and the requirements for any periodic reauthorization.

Suitability of
facility
operators.

52. The procedure for granting authorizations shall include—

- (a) a review of information to determine that an applicant possesses the professional competence necessary to conduct the relevant activities or practices covered by the authorization; and
- (b) a review of information concerning the personal integrity and character of applicants and, where an applicant that is a body corporate, its directors, secretary and senior management.

Emergency
plans.

53.—(1) The Authority shall establish, by regulations or by conditions in an authorization, a requirement that on-site and off-site emergency plans be prepared and approved for any facility, activity, practice or source that could give rise to a need for emergency intervention.

(2) In the preparation of emergency plans the following shall be taken into account—

- (a) an assessment of the nature, likelihood and potential magnitude of resulting damage, including the population and geographical area at risk from an accident, malicious act or incident; and
- (b) the results of any accident analyses, and any lessons learned from experience or incidents and accidents that have occurred in connection with similar incidents.

(3) Emergency plans shall include—

- (a) an identification of conditions that could create a need for emergency intervention;
- (b) intervention levels for protective actions and the scope of their actions, taking into account the possible severity of emergencies that could occur;
- (c) a requirement that an operator shall immediately notify the Authority of any situation or incident that could pose a risk of injury requiring an emergency intervention;

- (d) an allocation of responsibilities for notifying relevant emergency intervention and response organizations and for initiating intervention;
- (e) procedures, including communications arrangements, for contacting and obtaining assistance from emergency intervention organizations;
- (f) a description of the methodology and instrumentation for assessing an emergency situation and its consequences;
- (g) criteria for terminating each protective action;
- (h) provisions for the training of emergency responders and for conducting practical exercises, as appropriate, to test the adequacy of the emergency plan and to ensure that all parties involved in emergency interventions are adequately informed and prepared for possible emergencies; and
- (i) provisions for providing prior information to members of the public who could reasonably be expected to be affected by an emergency.

(4) Preparation of emergency plans for facilities, activities, practices or sources that could involve significant nuclear or radiation damage shall be coordinated with all relevant emergency intervention or response organizations.

(5) Emergency plans shall be periodically reviewed, updated and tested.

PART IV—*Duties of Authorization Holders*

54.—(1) An employer shall ensure that each radiation worker is not exposed to ionizing radiation that exceeds the prescribed dose limits for radiation workers.

Duty to
comply with
prescribed
dose limits.

(2) An employer who contravenes subsection (1) commits an offence.

(3) An employer shall ensure that each person in his employ who is under the age of eighteen years is not exposed to ionizing radiation in the course of the person's employment.

(4) An employer who contravenes subsection (3) commits an offence.

Duty to
inform
radiation
workers.

55.—(1) A person responsible for radioactive material, nuclear material or ionizing radiation apparatus in a workplace shall ensure that each radiation worker in the workplace is made aware of, and kept informed of any changes in, the following particulars in relation to that radioactive material, nuclear material or ionizing radiation apparatus—

- (a) the hazards that can arise in connection with the use of the radioactive material, nuclear material or ionizing radiation apparatus;
- (b) the safety arrangements that exist to protect persons from such hazards and the steps that the person shall take in order to minimize the likelihood that such a hazard will arise; and
- (c) the name of the radiation safety officer or other person to whom the person should refer in connection with any matters relating to the use of the radioactive material, nuclear material or ionizing radiation apparatus.

(2) A person who contravenes subsection (1) commits an offence.

Radiation
management
plan.

56.—(1) The Authority may, by notice in writing served on an employer, direct the employer—

- (a) to prepare or adopt a radiation management plan;
- (b) to submit a copy of the plan to the Authority for approval, within such time as is specified in the direction; and
- (c) to prepare and submit a training programme with respect to the radiation management plan for the employees that is satisfactory to the Authority.

(2) An employer shall not fail to comply with such a direction.

(3) An employer whose radiation management plan has been approved by the Authority shall—

- (a) ensure that a copy of the plan is available to all radiation workers employed by the employer;
- (b) ensure that the approved training programme is duly implemented; and
- (c) take all reasonable steps to ensure that the procedures set out in the plan with respect to the use of radioactive material or nuclear material and radiation apparatus are followed by all persons in his employ.

(4) A person who contravenes subsections (2) or (3) commits an offence.

Radiation Monitoring

57.—(1) An employer shall provide every radiation worker in his employ who is involved in the use of ionizing radiation for any of the purposes specified in subsection (2) with appropriate approved personal monitoring devices for detecting and measuring cumulative exposure to ionizing radiation.

Personal
monitoring
devices.

(2) The purposes referred to in subsection (1) are—

- (a) radiotherapy;
- (b) industrial radiography;
- (c) nuclear medicine;
- (d) specified scientific research in laboratories where radioactive material or nuclear material is used;
- (e) diagnostic radiology;
- (f) neutron based detection, analysis and gauging (but only when used in bore-hole logging);
- (g) servicing of ionizing radiation apparatuses or devices containing radioactive material or nuclear material; and

(h) such other purposes as the Authority may prescribe.

(3) A person who contravenes subsection (1) commits an offence.

(4) A radiation worker to whom an approved monitoring device has been provided in accordance with this section shall wear the device while involved in the use of ionizing radiation in the course of the person's employment.

(5) A person who contravenes subsection (4) commits an offence.

(6) The Authority may impose conditions on the approval of a personal monitoring device referred to in this section.

Personal
radiation
exposure
record.

58.—(1) An employer shall ensure that, for each radiation worker to whom a personal monitoring device is issued, a record is kept, in accordance with this section and on an appropriate periodic basis—

- (a) of the amount of radiation to which the person has been exposed, as measured by the device; and
- (b) of the results of any tests carried out or caused to be carried out by the employer in relation to the person for the purpose of determining the amount of radiation to which the person has been exposed.

(2) A person who contravenes subsection (1) commits an offence.

(3) A record under subsection (1) shall contain the following particulars—

- (a) the full name, sex and date of birth of the radiation worker;
- (b) the current home address of the radiation worker or, if the person is no longer employed by the employer, the person's last known home address;
- (c) the date of commencement of employment (and, if applicable, the date of cessation of employment) as a radiation worker;
- (d) the kind of work performed by the radiation worker;

- (e) details of the types of ionizing radiation to which the radiation worker may have been exposed in the course of employment with the employer, including information about radioactive material or nuclear material in unsealed form (if any) to which the radiation worker may have been exposed;
- (f) details of any radiation accidents or incidents in which the person has been involved or by which the person may have been affected;
- (g) details of the personal monitoring device worn by the radiation worker;
- (h) the results of monitoring the levels of radiation exposure of the radiation worker; and
- (i) the date of each occasion on which the personal monitoring device was serviced or repaired and the details of the service or repairs.

(4) When an employee leaves an employer's employment, the employer—

- (a) shall cause a copy of the radiation exposure records relating to the employee to be given to the employee; and
- (b) if the employee is taking up employment as a radiation worker with another employer and if the employee requests, shall cause a further copy of those records to be given to the other employer.

(5) A person who contravenes subsection (4) commits an offence.

(6) An employer shall ensure that a warning in the following terms accompanies a copy of the radiation exposure records given to an employee by the employer in accordance with subsection (4)—

“THESE RECORDS SHOULD BE KEPT SAFELY AND PERMANENTLY AND BE GIVEN TO ANY FUTURE EMPLOYER EMPLOYING YOU AS A RADIATION WORKER.”

(7) An employer by whom records are required to be kept shall ensure that the records are available for inspection by the person to whom they relate at reasonable times during normal working hours.

Area
monitoring
devices.

59.—(1) The Authority may, by notice in writing served on an employer, direct the employer to take specified action with respect to the monitoring of radiation on specified premises.

(2) A direction under subsection (1) may require the employer to ensure that specified premises are equipped with approved monitoring devices for the purpose of monitoring the presence and level of radiation on the premises.

(3) The Authority may impose conditions on the approval of a monitoring device referred to in this section.

(4) An employer shall not contravene a direction under this section.

(5) An employer who contravenes subsection (4) commits an offence.

(6) An employer shall ensure that, for each monitoring device with which premises are equipped for the purposes of this section, a record is kept of the following particulars—

- (a) the date on which the device was acquired;
- (b) the date of each occasion on which the device was repaired and the details of the repairs;
- (c) the date on which the device was last calibrated.

Maintenance
of monitor-
ing devices.

60.—(1) An employer shall ensure that all monitoring devices that are issued or installed by the employer in accordance with the requirements of this Part are checked, maintained and calibrated in accordance with the regulations.

(2) An employer person who contravenes subsection (1) commits an offence.

Exposure to Radiation for Scientific or Research Purposes

61.—(1) A person shall not expose any other person to ionizing radiation for scientific or research purposes except in accordance with this Act and the regulations. Exposure radiation for scientific or research purposes.

(2) A person who contravenes subsection (1) commits an offence.

Disposal and Discharge of Radioactive Material, Nuclear Material and Ionizing Radiation Apparatuses

62.—(1) A person who disposes of radioactive material, nuclear material or an ionizing radiation apparatus shall maintain a record, in accordance with this section, of the disposal. Records to be kept of disposal of radioactive material, etc..

(2) A person who contravenes subsection (1) commits an offence.

(3) The record shall include the following information—

- (a) the type of radioactive material, nuclear material or ionizing radiation apparatus disposed of;
- (b) an estimate of the total activity of the radioactive material or nuclear material or ionizing radiation apparatus disposed of;
- (c) the manner of disposal of the radioactive material, nuclear material or ionizing radiation apparatus; and
- (d) the date of disposal of the radioactive material, nuclear material or ionizing radiation apparatus.

Radiation Accidents

63.—(1) For the purposes of this section, a radiation accident is to be treated as having occurred if there is an occurrence that involves the unplanned or unexpected emission of radiation (including spillage or leakage of a radioactive material or damage to ionizing radiation apparatus) and that is of such a nature or extent that it is likely— Certain occurrences taken to be radiation accidents.

- (a) that one or more persons have, or could have, received an effective dose of radiation equal to or in excess of the prescribed limit; or

- (b) that the premises or the environment may have become contaminated.

(2) For the purposes of this section, a radiation accident is to be treated as having occurred if there is an occurrence that involves the misuse of an ionizing radiation apparatus or maladministration of a radioactive material used for medical purposes, that involves any of the following—

- (a) the administration of radioactive material for diagnostic purposes in a quantity of more than fifty per cent more than that prescribed;
- (b) the administration of a radioactive material for therapeutic purposes at an activity differing by more than fifteen per cent from that prescribed;
- (c) the administration of a therapeutic dose of radiation from ionizing radiation apparatus or a sealed source device which differs from the total prescribed treatment dose by more than ten per cent;
- (d) the administration of a dose of radiation for diagnostic purposes from an ionizing radiation apparatus that results in one or more persons receiving an effective dose of radiation equal to or in excess of the prescribed limit;
- (e) the unintended administration of radiation as a result of a malfunction of a radiation apparatus; or
- (f) the administration of a radiopharmaceutical otherwise than as prescribed by a registered medical practitioner.

Duty to
report
apparent
radiation
accidents.

64.—(1) A person responsible for radioactive material or nuclear material shall give written notice in the prescribed form and manner to the Authority of the following in relation to the radioactive material or nuclear material—

- (a) the particulars specified in subsection (3) (a) to (d) within forty-eight hours of becoming aware of an apparent radiation accident (or immediately, if the accident is of such a nature

or extent that it is likely that the premises or the environment may have become contaminated); and

- (b) the particulars specified in subsection (3) (e), within ten days of becoming aware of an apparent radiation accident.

(2) A person who contravenes subsection (1) commits an offence.

(3) The notice shall contain the following particulars—

- (a) particulars of the accident indicating, as far as is possible, the place where it occurred and the period during which emission of radiation was uncontrolled;
- (b) particulars of the area over which any radioactive material or nuclear material may have been dispersed;
- (c) particulars of any steps taken to rectify the accident;
- (d) particulars of any personal injury or exposure that may have resulted; and
- (e) particulars of any assessment of the radiation dose to which any person may have been exposed as a result of the accident.

(4) Notice does not have to be given under this section by a person if notice of the required information has already been given by another person responsible for the radioactive material or nuclear material.

65.—(1) A person responsible for radioactive material, nuclear material or ionizing radiation apparatus shall maintain a record, in accordance with this section, of all radiation accidents in relation to that radioactive material or nuclear material, or ionizing radiation apparatus.

Record of
radiation
accidents.

(2) A person who contravenes subsection (1) commits an offence.

(3) A record maintained pursuant to subsection (1) shall, for each radiation accident that is reported to the responsible person, contain the following particulars—

- (a) particulars of the accident indicating, as far as is possible, the place where it occurred and the period during which emission of radiation was uncontrolled;
- (b) the name of any radiation worker or other person who was there during that period;
- (c) an estimate of the radiation dose to which any person may have been exposed;
- (d) details and results of any medical examinations undertaken as a result of the accident;
- (e) particulars of the area over which any radioactive material or nuclear material may have been dispersed;
- (f) particulars of any steps taken to rectify the accident;
- (g) the time at which the accident was reported to the employer;
- (h) the probable cause of the accident;
- (i) particulars of any investigations conducted into the accident, together with the results of the investigations; and
- (j) details of any steps taken to reduce the risk of a similar accident occurring in the future.

(4) A record does not have to be maintained under this section by a person if the record is already maintained by another person responsible for the radioactive material, nuclear material or ionizing radiation apparatus.

Faults and defects.

66.—(1) A person responsible for an ionizing radiation apparatus, on becoming aware that a fault may exist in the ionizing radiation apparatus shall—

- (a) immediately investigate the apparent fault and, if necessary, cause the apparatus to be removed, replaced or repaired; and

- (b) as soon as practicable (but, in any case, within seven days), inform all persons, who may have been exposed to radiation in quantities in excess of those that would normally be received from the apparatus in faultless condition that they may have been so exposed.

(2) A person who contravenes subsection (1) commits an offence.

(3) A person responsible for radioactive material or nuclear material, on becoming aware that a fault or defect may exist in any sealed source device that is radioactive material or nuclear material for which that person is responsible—

- (a) shall immediately investigate the apparent fault or defect and, if necessary, cause the sealed source device to be removed, replaced or repaired; and
- (b) shall, as soon as practicable (but, in any case, within seven days), inform all persons, who may have been exposed to radiation in quantities in excess of those that would normally be received from the sealed source device in faultless condition, that they may have been so exposed.

(4) A person who contravenes subsection (3) commits an offence.

(5) A person is not required to comply with a requirement of this section if another person responsible for the ionizing radiation apparatus has complied with the requirement.

67.—(1) A person responsible for radioactive material or nuclear material or an ionizing radiation apparatus shall ensure that a member of the public is not exposed to ionizing radiation from that material or apparatus that exceeds the prescribed dose limit for members of the public (other than patients who are receiving radiation treatment administered by or on the instruction of a registered medical practitioner).

Duty to
protect public
from
exposure to
radiation.

(2) A person who contravenes subsection (1) commits an offence.

Radiation Safety Officers and Committees

Appointment
of radiation
safety
officers and
constitution
of commit-
tees.

68.—(1) The Authority may, by notice, in writing—

- (a) direct the employer to appoint a radiation safety officer or a radiation safety committee, or both, for a workplace;
- (b) in the case of a direction to appoint a radiation safety officer, determine the qualifications to be held by a person so appointed; and
- (c) direct what functions are to be exercised by a radiation safety officer or radiation safety committee so appointed.

(2) An employer—

- (a) shall not fail to appoint a radiation safety officer or a radiation safety committee, or both, in accordance with a direction under this section; and
- (b) shall not allow the functions of the radiation safety officer or radiation safety committee to be exercised otherwise than by the officer or the committee, as the case requires.

Loss or theft
of radioactive
material, etc.

69.—(1) If any radioactive material, nuclear material or ionizing radiation apparatus (except a security enhanced radioactive source) is lost or stolen—

- (a) the person who is the owner of the radioactive material, or nuclear material or ionizing radiation apparatus; and
- (b) any other person who is responsible for the radioactive material, nuclear material or ionizing radiation apparatus or is authorized and employed to use, or supervise the use of, the material or apparatus,

shall cause notice of the loss or theft to be given to the Authority immediately after the person becomes aware of the loss or theft.

(2) A person who contravenes subsection (1) commits an offence.

(3) Notice does not have to be given under this section by any one of those persons if the required notice has already been given by any other persons.

70.—(1) If a security enhanced radioactive source is lost, stolen, intentionally damaged or accessed without authority, a person responsible for the security enhanced radioactive source shall—

Loss or theft of security enhanced radioactive source.

- (a) immediately notify the Authority and the Police thereof; and
- (b) within seven days of the notice, submit a report thereon to the Authority that contains the following information—
 - (i) the circumstances of the loss, theft, damage or access;
 - (ii) the steps taken to rectify the loss, theft, damage or access;
 - (iii) if the security enhanced radioactive source is lost or stolen, any information that may assist in the recovery of the source.

(2) A person who contravenes subsection (1) commits an offence.

(3) A notice or a report does not have to be given by a person if the required notice or report has already been given by another person responsible for the source.

71.—(1) The occupier of any premises in or on which any radioactive material, nuclear material or ionizing radiation apparatus is kept shall ensure that a warning sign in or to the effect of the prescribed form (with the prescribed colouring) is conspicuously displayed in the immediate vicinity of the material or apparatus.

Warning sign.

(2) A person who contravenes subsection (1) commits an offence.

72.—(1) A person responsible for radioactive material or nuclear material or ionizing radiation apparatus shall not destroy or otherwise dispose of any records required to be maintained under section 65 otherwise than in accordance with that section.

Destruction or disposal of records.

(2) An employer or a person responsible for radioactive material, nuclear material or ionizing radiation apparatus may, with the consent of the Authority, destroy or otherwise dispose of any records that the employer or responsible person is required to be kept.

(3) The Authority shall not give consent to the destruction of any records maintained under this Act or the regulations by an employer until at least five years after the cessation of employment with the employer of the employee concerned.

(4) An employer shall forward to the Authority the records maintained under this Act and the regulations by the employer if the employer ceases to carry on business in Jamaica.

(5) The Authority may dispose of any records forwarded to or kept by the Authority in accordance with this section.

(6) A person who contravenes subsection (1) or (4) commits an offence.

PART V—*Hazardous Substances Appeal Tribunal*

Appeal
Tribunal.

73.—(1) There is established a tribunal to be called the Hazardous Substances Appeal Tribunal for the purpose of hearing appeals from the decisions of the Authority.

Fourth
Schedule.

(2) The provisions of the Fourth Schedule shall have effect as to the constitution of the Tribunal and otherwise in relation thereto.

(3) Subject to subsection (4), an applicant for an authorization under this Act, an authorization holder, an operator or any other person substantially affected by a decision of the Authority, may appeal to the Tribunal by way of a notice of appeal within sixty days of the decision, or within such longer period as the Tribunal may allow.

(4) A notice of appeal shall set out the grounds of appeal and shall be accompanied by copies of any correspondence, document or statement relevant to the appeal.

(5) A copy of the notice of appeal together with copies of any correspondence, document or statement shall be served on the Authority.

(6) The Tribunal shall, within seven days of the receipt of a notice of appeal under subsection (3), request the Authority to furnish it, within seven days, with a statement in writing setting out the reasons for its decision.

(7) The Tribunal may order that any document, relating to the appeal which is in the possession of the Authority or the person aggrieved be produced at the hearing of the appeal.

(8) The Tribunal shall cause all parties to the appeal to be informed—

- (a) of the date of the hearing of the appeal;
- (b) that they may appear themselves or be represented by their attorneys-at-law; and
- (c) that they may summon witnesses in their cause.

(9) Any party to an appeal may, either in person or by his Attorney-at-law, make oral or written submissions to the Tribunal.

(10) The Tribunal shall, within twenty-one days of the hearing of an appeal under this section, deliver its decision in writing and the decision shall be final.

(11) On hearing an appeal under this section, the Tribunal may—

- (a) dismiss the appeal and confirm the decision of the Authority;
- (b) allow the appeal and set aside the decision of the Authority;
- (c) vary the decision of the Authority; or
- (d) direct that the matter be referred to the Authority.

PART VI—*Inspection*

74.—(1) The Authority may, from time to time, appoint suitably qualified persons as inspectors, for the purposes of this Act.

Appointment
of inspectors.

(2) An appointment under subsection (1) may be made subject to conditions specified in the instrument of appointment.

(3) The appointment of a person as an inspector shall be published in the *Gazette*.

(4) The Authority may vary or revoke an appointment at any time.

Identification
card.

75.—(1) The Authority shall issue each inspector with an identification card in the prescribed form.

(2) The identification card shall be issued to the inspector as soon as is reasonably practicable after the appointment is made (but an inspector is not prevented from exercising powers under this Act just because an identification card is not yet issued to him).

(3) An inspector shall, at the request of a person in relation to whom the inspector intends to exercise any powers under this Act, produce for the inspection of the person his identity card (unless the identification card is not yet issued to him).

(4) An inspector appointed under this Act shall, on ceasing to be an inspector for any reason, immediately return his identification card to the Authority.

Functions of
inspectors.

76.—(1) For any reasonable purpose connected with the administration or enforcement of this Act, an inspector may, and upon the direction of the Authority, an inspector shall—

- (a) inspect facilities in order to ensure compliance with—
 - (i) international obligations, this Act and the regulations;
 - (ii) any condition subject to which an authorization is granted;
 - (iii) the requirements of any law relating to nuclear safety and radiation protection and the health and security of radiation workers;
- (b) keep such records as may be specified by the Authority;

- (c) report generally to the Authority at such times and in such manner as the Authority may determine; and
- (d) perform such other functions as may be prescribed or as may be authorized by the Authority for the purposes of this Act.

(2) In the performance of his functions under subsection (1), an inspector may—

- (a) with the authority of a search warrant issued under section 78 or in circumstances in which the inspector reasonably believes that immediate action is required, enter, break into or open any part of, or anything in or on, any premises or vehicle and inspect any premises, container or vehicle; and
- (b) with the consent, expressed or implied, of the owner, occupier or person who is in control of the premises, or in accordance with a search warrant issued under section 78, enter and inspect any premises during office hours or any container or vessel at any time, if he has reasonable grounds for believing that there is radioactive material, nuclear material or any ionizing radiation apparatus therein.

(3) The power of inspection conferred by subsection (2) includes the power to—

- (a) examine, test or sample any radioactive material or nuclear material;
- (b) examine, test or calibrate any ionizing radiation apparatus, instrument or measuring or control equipment;
- (c) use or install any equipment or measuring device for sampling, measuring or analyzing any radioactive or nuclear;
- (d) measure any quantity of radioactive material or nuclear material;
- (e) inspect any apparatus, instrument or measuring or control equipment, enclosure, container or vehicle found on any such premises;

- (f) inspect any site where—
 - (i) it is proposed to dispose of a radioactive material, nuclear material or ionizing radiation apparatus or build facilities;
 - (ii) radioactive material, nuclear material or ionizing radiation apparatus are disposed of, constructed or erected;
- (g) examine any aircraft, vehicle or vessel used in the transportation of nuclear material, radioactive material or ionizing radiation apparatus;
- (h) examine—
 - (i) registers and authorizations kept or held under this Act;
 - (ii) documents relating to ionizing radiation apparatus or equipment used in connection with that apparatus and any instruments, devices or accessories for measuring or detecting radiation material, nuclear material or radioactive material;
- (i) examine, take extracts from, or make copies of or reproduce any document;
- (j) interview any person on the premises or in the vehicle and make recordings of such interviews;
- (k) operate any equipment (including electronic equipment) located at the premises, if the person exercising the power believes, on reasonable grounds, that the equipment can be operated without damaging it;
- (l) take photographs, films, audio, audiovisual video or other recordings anywhere in or around the premises or vehicle;
- (m) operate any radiation detection or measurement device;

- (n) open any container or enclosure found on any premises which he reasonably believes contains any radioactive material or nuclear material;
- (o) monitor the labelling of packages containing radioactive material, nuclear material or ionizing radiation apparatus with a view to ensuring that proper standards are maintained;
- (p) give directions to the licensee, owner, occupier or person in charge of any premises, container or vehicle;
- (q) restrict or prohibit the access of persons and vehicles to or from the premises;
- (r) apply labels, seals or other identifying and tamper-indicating devices;
- (s) determine the suitability of any premises, container, device, aircraft, vehicle or vessel used for the purposes of this Act; and
- (t) do anything that is prescribed or that is necessary or expedient for the carrying out of any of the acts referred to in paragraphs (a) to (t).

(4) A power referred to in subsection (2) or (3) may only be exercised in a manner that the person authorized to exercise it believes, on reasonable grounds, to be in accordance with safety and security procedures applicable at the premises.

77.—(1) The Authority may, by notice in writing, issue directions to any person for the purpose of facilitating any inspection under this Part. Written directions.

(2) A person who, without reasonable excuse, contravenes a direction given by the Authority under subsection (1) commits an offence.

78.—(1) An inspector may apply for a search warrant where the consent of the person who owns, or who is in control of, any premises to enter the premises to exercise any inspection power for a compliance purpose cannot be obtained or where the person refuses to give consent. Warrant for inspection.

(2) A Justice of the Peace who is satisfied that there are reasonable grounds for believing that—

- (a) entry to the premises, container or vehicle is necessary to exercise any power of inspection; and
- (b) the consent of the person who owns, or who is in control of the premises, container or vehicle cannot be obtained or the consent is refused,

may, unconditionally or subject to conditions, issue a warrant authorizing the entry of the premises, at such time as may be specified in the warrant and within fourteen days of the issue of such warrant (or within such longer period as may be specified in the warrant), by the inspector for the purpose of exercising any power of inspection.

PART VII—*Radiation Protection*

Fundamental
principles of
radiation
safety and
protection.

79. The following fundamental principles of radiation safety and protection shall apply to all activities and practices conducted in Jamaica—

- (a) the justification principle, that is to say, no activity or practice shall be authorized unless it produces sufficient benefit to exposed persons or to society in a manner that offsets the detriment or harm that it may cause, taking into account social, economic and other relevant factors;
- (b) the optimization principle, that is to say, in relation to radiation exposures from any particular activity or practice, radiation protection measures should ensure that doses, the number of persons exposed and the likelihood of incurring exposure are at all times kept as low as reasonably achievable, taking into account social and economic factors; and
- (c) the dose limitation principle, that is to say, activities and practices shall be conducted in a manner that ensures that the total dose that a person may experience does not exceed any prescribed dose limit, so that no person is subject to an unacceptable risk attributable to radiation exposure.

80.—(1) The Authority shall make regulations for the protection of persons from injury due to exposure to ionizing radiation. Regulatory control of radiation safety and protection.

(2) The Authority shall prescribe dose limits for persons that may not be exceeded in conducting activities under regulatory control.

(3) Any dose limits prescribe shall take into account any recommendations of the IAEA and the International Commission on Radiation Protection.

(4) The Authority shall establish clearance levels or values below which radioactive material or nuclear material or radioactive objects within authorized activities and practices can be released from regulatory control.

81.—(1) The Authority shall issue directions for radiation protection that are to be met before any activity or practice can be authorized. Radiation protection requirements for authorizations.

(2) The requirements set out in subsection (1) shall include the following that the authorization holder—

- (a) possesses an adequate understanding of the fundamental principles of radiation safety and protection;
- (b) takes all steps necessary for the protection and safety of workers and the public by keeping doses below the prescribed dose limit and ensuring that all reasonable steps are taken to minimize adverse effects on the population, at present and in future;
- (c) plans and implements the technical and organizational measures necessary to ensure adequate safety, including effective defences against radiological hazards;
- (d) prepares and implements an appropriate emergency plan together with a training programme to support its effect;
- (e) ensures compliance with the dose limits established by the Authority and that the authority monitors the radiation exposure of workers;

- (f) possesses and maintains adequate human and technical resources to conduct the proposed activity or practice in a manner that ensures safety and security;
- (g) makes adequate arrangements for waste disposal, decommissioning and the potential liability for radiological or nuclear damage;
- (h) provides access by inspectors to locations necessary for the performance of their duties;
- (i) does not modify its conduct of any authorized activity or practice in a manner that could affect the protection of workers, the public or the environment without seeking the approval of the Authority;
- (j) provides, upon request or under the requirements in relevant regulations, all information considered to be necessary by the Authority.

Responsibilities
of operators
re radiation
protection.

82.—(1) The primary responsibility for ensuring safety rests with the authorization holder to engage in activities involving ionizing radiation or nuclear technology.

(2) Authorization holders shall ensure compliance with the requirements and dose limits established by the Authority, and shall ensure that radiation doses to workers and the public, including doses from releases into the environment, are as low as reasonably achievable, taking into account social and economic factors.

Medical
practices.

83.—(1) With regard to medical practices, the Authority shall, in addition to the direction issued under section 77, issue guidelines in relation to the following—

- (a) the training of radiation workers;
- (b) measures for the protection of radiation workers;
- (c) measures to protect patients, including the justification of practices and optimization of exposures;
- (d) design and performance criteria for ionizing radiation apparatuses;
- (e) measures for the safety and security of radioactive sources.

(2) The Authority may enter into memoranda of understanding, arrangement or other protocols or organizations whose members include radiation workers.

84. An authorization holder who operates a facility comprising a medical practice shall ensure that no patient is administered a diagnostic or therapeutic exposure unless the exposure is prescribed by a registered medical practitioner who is assigned the primary task of and obligations for ensuring overall patient protection and safety. Protection of patients.

85.—(1) The Authority may make regulations specifying the sources, activities or practices to be exempted from regulatory control based on the following criteria, that— Exemptions re regulatory control.

- (a) the radiation risk for persons is sufficiently low to be of no regulatory concern;
- (b) the collective radiological impact is sufficiently low that regulatory control is not warranted; and
- (c) the source or practice is considered to be inherently safe, with no likelihood of creating situations that could result in a failure to meet the criteria set out in paragraph (a) or (b).

(2) The Authority shall establish clearance levels (or values) below which radioactive material or nuclear material or radioactive objects within authorized activities and practices can be released from regulatory control.

PART VIII—*Radioactive Sources*

86.—(1) The Authority shall establish a system of control over radioactive sources and devices in which the sources are incorporated to ensure that the radioactive sources and devices are safely managed and securely protected during and at the end of their useful lives. Regulatory control of radioactive sources.

(2) In accordance with IAEA guidance, the Authority shall adopt a control categorization of sources based on the potential injury to people and the environment that could result if those sources are not safely managed or securely protected and shall include the control list in the national register referred to in section 83.

(3) In accordance with the international obligations and commitments of Jamaica, the Authority shall, after consultation with the Commissioner of Customs, establish a list of goods subject to control for purposes of import into and export from Jamaica.

Responsibility for safety and security of radioactive sources.

87. The primary responsibility for ensuring the safe and secure use of radioactive sources rests with the person possessing an authorization relating to the sources.

National register of radioactive sources.

88.—(1) The Authority shall establish and maintain a national register of radioactive sources.

(2) The Authority shall adopt measures to protect information contained in the national register of radioactive source, to ensure the safety and security of these sources.

Export and import of radioactive sources.

89. Every person importing or exporting radioactive sources shall comply with the IAEA Regulations for the Safe Transport of Radioactive Material and any other regulations prescribed by the Authority regarding the transport of radioactive sources.

Recovery of orphan sources.

90.—(1) The Authority shall require authorization holders to forthwith report any loss of control over radioactive sources, or any other situation or incident in connection with a radioactive source that may pose a risk of injury to persons or substantial damage to property or the environment.

(2) The Authority shall coordinate the development of a national programme for the prompt gaining or regaining control over orphan sources.

(3) The national programme referred to in subsection (2) shall be coordinated with the appropriate public bodies and approved by the Minister.

PART IX—*Research Reactors*

Scope of Part IX, etc.

91.—(1) This Part and the Fifth Schedule apply to the safety of research reactors at all stages of the life of the research reactors.

Fifth Schedule.

(2) This Part and the Fifth Schedule does not apply to the physical protection of research reactors.

(3) Reference in this Part and the Fifth Schedule to an “operator” is a reference to the operator of a research reactor.

92.—(1) The Authority shall, in relation to research reactors—

Function of
Authority, in
relation to
research
reactors.

- (a) establish and maintain a regulatory framework to govern the safety of research reactors that places the primary responsibility for the safety and security of research reactors on the operator;
- (b) issue authorizations with regard to all stages in the life of a research reactor;
- (c) establish and implement a system of inspection and assessment of research reactors and to ascertain compliance with applicable regulations and the terms of authorizations;
- (d) enforce applicable regulations and the terms of authorizations, including the suspension, modification or revocation of an authorization;
- (e) if it considers it appropriate, establish procedure for consultation with make regulations defining how members of the public on regulatory matters;
- (f) ensure that the operator has systems in place for the safe operation of the research reactor, for maintaining the research reactor in a safe shutdown state for extended periods if this becomes necessary and for its decommissioning;
- (g) establish an effective system of governmental emergency response and intervention capabilities relating to research reactors;
- (h) make adequate legal and infrastructural arrangements for the decommissioning of research reactors;
- (i) take the appropriate steps to ensure that the safety of all operating research reactors and research reactors in extended shutdown is reviewed;
- (j) when necessary in the context of this Part and the Fifth Schedule, ensure that all reasonably practicable improvements are made to upgrade the safety of the research reactors;

Fifth Schedule.

- (k) if the upgrading of research reactors cannot be achieved, make appropriate provisions to shut down and then decommission the research reactors;
- (l) in circumstances where a research reactor is in extended shutdown and there is no longer any effective operator, make arrangements for the safe management of the research reactor;
- (m) take appropriate steps to ensure that arrangements are put in place to inform neighbouring States, insofar as they are likely to be affected by the research reactor, of a planned siting or construction of a research reactor;
- (n) upon request, to provide sufficient information to neighbouring States to enable them to evaluate and make their own assessment of the likely safety impact of the research reactor on their State for emergency planning and response.

(2) The timing of the shutdown of every research reactor, if safety allows it, may take into account the contributions of the research reactor's utilization programme to society and the possible alternatives as well as other social, environmental and economic impacts.

Responsibility
of operator
re research
reactors.

93. The operator shall ensure the safety and security of the research reactor and of all activities and procedures associated with it.

PART X—Decommissioning of Facilities Generally

Decommission
of facilities
Sixth
Schedule.

94. The provisions of the Sixth Schedule shall have effect in relation to the decommissioning of facilities.

PART XI—Mining, Processing and Transportation of Radioactive Material or Nuclear Material

Mining,
processing
and
transporta-
tion of
radioactive
material, etc.
Seventh
Schedule.

95. The provisions of the Seventh Schedule shall have effect in relation to the mining, processing and transportation of radioactive material, nuclear material and ionizing radiation apparatuses.

PART XII—*Radioactive Waste and Spent
Fuel Management*

96.—(1) The Authority shall, taking into account national conditions and practice and in consultation with the most representative organizations of employers and radiation workers, and the Minister, caused to be formulated, implemented and periodically reviewed, to be a coherent national policy on radioactive waste (and spent fuel) management (to be known as the “Radioactive Waste Policy”).

National
policy and
strategy.

(2) The Radioactive Waste Policy shall—

- (a) be approved by the Cabinet; and
- (b) contain such information as may be prescribed and such other information as the Minister thinks necessary.

(3) On the approval of the Radioactive Waste Policy, and any amendment thereof, all Government activities relating to radioactive waste and spent fuel management shall be undertaken in accordance therewith.

(4) The Radioactive Waste Policy as approved by the Cabinet shall be tabled in the House of Representatives and the Senate.

97. At all stages in the management of radioactive waste (and spent fuel) in Jamaica, the following principles shall be applied by all persons, including public bodies—

General
principles for
radioactive
waste and
spent fuel
management.

- (a) people and the environment are to be adequately protected against radiological and other hazards;
- (b) the generation of radioactive waste is to be kept to the minimum practicable;
- (c) the interdependence among the different stages of radioactive waste and spent fuel management is to be taken into account;
- (d) protective measures for radioactive waste and spent fuel management in Jamaica are implemented in a manner that reflects the criteria, standards and guidance adopted by the IAEA;

- (e) biological, chemical and other hazards that may be associated with radioactive waste and spent fuel management are adequately addressed;
- (f) criticality, and removal of residual heat generated during radioactive waste and spent fuel management, are adequately addressed;
- (g) actions imposing reasonably predictable impacts on future generations of the population greater than those permitted for the current generation of the population are to be avoided;
- (h) undue burdens on current and future generations are to be avoided; and
- (i) appropriate funding arrangements are to be in place.

Regulation of
radioactive
waste and
spent fuel
management.

98. To ensure the safe and secure management of radioactive waste and spent fuel, the Authority shall establish—

- (a) safety and security requirements;
- (b) regulations for the protection of people and the environment from the adverse impacts of radioactive waste and spent fuel management activities and practices;
- (c) a system of authorization of radioactive waste and spent fuel activities and practices;
- (d) a system of regulatory inspection, documentation and reporting for radioactive waste and spent fuel management activities, and in the case of disposal, a system of institutional control; and
- (e) a system of enforcement to ensure compliance with applicable regulations and the terms and conditions of authorizations for radioactive waste and spent fuel management activities.

Responsibility
for safety and
security of
radioactive
waste and
spent fuel.

99.—(1) The primary responsibility for ensuring the safety and security of radioactive waste spent fuel inside or outside a facility (throughout its life rests) with the authorization holder.

(2) The responsibility for ensuring the safety and security of radioactive waste and spent fuel for which no operator can be determined shall rest with the Authority.

100.—(1) The operator of a nuclear waste disposal facility shall prepare a plan for the closure of that facility that includes both active and passive institutional controls. Closure plan.

(2) The Authority shall approve the closure plan mentioned in subsection (1) prior to authorizing the operation of that facility.

101.—(1) Radioactive waste or spent fuel generated in Jamaica may be exported only upon the grant of an authorization by the Authority. Export of radioactive waste.

(2) Radioactive waste or spent fuel shall not be authorized for export to a destination south of latitude sixty degrees south for storage or disposal.

102. The following criteria shall be applied in determining whether to approve an export authorization— Criteria for export of radioactive waste.

- (a) whether the importing State has been notified of the transfer of radioactive waste (spent fuel) prior to its receipt and has consented to the transfer;
- (b) whether movement of the exported material will be conducted in accordance with relevant international obligations in all States through which the material will transit;
- (c) whether the importing State possesses the administrative and technical capacity, as well as the regulatory structure needed to manage the exported radioactive waste (spent fuel) in a manner that ensures its safety and security, consistent with the relevant IAEA standards.

103. If an authorized export of radioactive waste or spent fuel cannot be completed in accordance with this Act, the radioactive waste or spent fuel shall be re-imported into Jamaica, unless alternative safe and secure arrangements can be made. Re-import of radioactive waste.

PART XIII—*Nuclear Liability and Coverage*

104. For the purposes of this Part—

“convention” means the Vienna Convention on Civil Liability for Nuclear Damage;

Interpretation
of Part XIII.

“measures of reinstatement” means any reasonable measures which have been approved by the competent authorities of the State where the measures were taken, and which aim to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment;

“nuclear damage” means—

- (a) loss of life or personal injury;
- (b) loss of, or damage to, property;
- (c) economic loss arising from loss or damage referred to in subparagraph (i) or (ii), in so far as not included in those paragraphs, if incurred by a person entitled to claim in respect of the loss or damage;
- (d) the costs of measures of reinstatement of impaired environment, unless the impairment is insignificant, if the measures are actually taken or to be taken, and in so far as not included in subparagraph (ii);
- (e) loss of income deriving from an economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, and in so far as not included in subparagraph (ii);
- (f) the costs of preventive measures, and further loss or damage caused by the measures;
- (g) any other economic loss, other than economic loss caused by the impairment of the environment, if permitted by the general law on civil liability of the competent court, in the case of subparagraph (i) to (v), to the extent that the loss or damage arises out of or results

from ionizing radiation emitted by any source of radiation inside a nuclear installation, or emitted from nuclear fuel or radioactive products or waste in, or of nuclear material coming from, originating in, or sent to, a nuclear installation, whether so arising from the radioactive properties of the matter, or from a combination of radioactive properties with toxic, explosive or other hazardous properties of the matter;

“nuclear fuel” means any material which is capable of producing energy by a self-sustaining chain process of nuclear fission;

“nuclear incident” means any occurrence or series of occurrences having the same origin which caused nuclear damage or, but only with respect to preventive measures, create a grave and imminent threat of causing the damage;

“nuclear installation” means—

- (a) any nuclear reactor, other than one which is used as a source of power for any sea or air transport, that is equipped, whether for propulsion thereof or for any other purpose;
- (b) any factory using nuclear fuel for the production of nuclear material, or any factory for the processing of nuclear material, including any factory for the reprocessing of irradiated nuclear fuel; and
- (c) any facility where nuclear material is stored, other than storage incidental to the carriage of the material;

“nuclear material” means—

- (a) nuclear fuel, other than natural uranium and depleted uranium, capable of producing energy by a self-sustaining chain process of nuclear fission outside a nuclear reactor, either alone or in combination with some other material;

(b) radioactive products or waste;

“nuclear reactor” means any structure containing nuclear fuel in an arrangement that a self-sustaining chain process of nuclear fission can occur therein without an additional source of neutrons;

“operator”, in relation to a nuclear installation, means the person designated or recognized by the Authority as the operator of that installation;

“preventive measures” means any reasonable measures taken by any person after a nuclear incident has occurred to prevent or minimize damage referred to in paragraphs (b)(i) to (v) or (vii), subject to any approval of the competent authorities required by the law of the State where the measures were taken;

“radioactive products or waste” means any radioactive material produced in, or any material made radioactive by exposure to the radiation incidental to, the production or utilization of nuclear fuel, but does not include radioisotopes which have reached the final stage of fabrication so as to be usable for any scientific, medical, agricultural, commercial or industrial purpose;

“reasonable measures” means measures which are found under the laws of Jamaica to be appropriate and proportionate having regard to all the circumstances, such as—

- (a) the nature and extent of the damage incurred or, in the case of preventive measures, the nature and extent of the risk of the damage;
- (b) the extent to which, at the time they are taken, the measures are likely to be effective; and
- (c) relevant scientific and technical expertise;

“special drawing right”, means the unit of account defined by the International Monetary Fund and used by it for its own operations and transactions.

105.—(1) Subject to the provisions of this Part, only the operator of a nuclear installation shall be liable for nuclear damage wherever suffered, upon proof that the damage has been caused by a nuclear incident at the operator's nuclear installation. Liability of operator for nuclear damage.

(2) Liability for nuclear damage caused by nuclear material which was stolen, lost, jettisoned or abandoned lies with the operator who was last authorized to possess the nuclear material.

(3) The provisions of this Part in respect of liability for nuclear damage shall apply to nuclear damage wherever suffered.

106.—(1) In the case of transport of nuclear material, the sending operator shall be liable for nuclear damage in connection therewith until the receiving operator has taken charge of the material involved, unless the sending and receiving operators have entered into a written agreement to shift liability at another stage of transport, or to shift liability to the carrier of the material at the carrier's request. Liability during transport.

(2) Where a written agreement mentioned in subsection (1) exists, the carrier shall be considered as the operator liable in accordance with this Part.

(3) Where the nuclear material has been sent to a person within a State that is not Party to the Convention, the sending operator shall be liable for nuclear damage in connection therewith arising before the nuclear material has been unloaded from the means of transport by which it has arrived in that non-contracting State.

(4) Where the nuclear material has been sent from a person within a State that is not Party to the Convention, the receiving operator shall be liable for nuclear damage in connection therewith arising only after the nuclear material has been loaded on the means of transport by which it is to be carried from that non-contracting State.

107.—(1) Rights of compensation for nuclear damage under this Part shall be extinguished if an action is not brought with respect to— Extinction of rights of compensation.

- (a) loss of life or personal injury, within thirty years from the date of the nuclear incident; or

- (b) any other nuclear damage, within ten years from the date of the nuclear incident.

(2) Rights of compensation for nuclear damage under this Part shall be extinguished three years from the date on which the person suffering damage had knowledge or ought reasonably to have had knowledge of the damage and of the operator liable for the damage, unless the time limits established in subsection (1) have expired.

(3) Any person who claims to have suffered nuclear damage and who has submitted a claim for compensation within the period applicable under this section may amend the claim to take into account any aggravation of the damage, even after the expiration of that period, provided that a final judgment has not been entered.

Jurisdiction.

108.—(1) The Supreme Court of Judicature of Jamaica shall be the only court having jurisdiction to examine claims for compensation for nuclear damage under this Part caused by a nuclear incident occurring in Jamaica and which are brought before that court under this Part.

(2) Any person who has a right of compensation for nuclear damage under this Part may bring an action for compensation against the liable operator, or directly against the insurer or against any other person providing financial security for the liable operator's obligation to pay compensation under this Part.

Judgements.

109. A final judgment by a foreign court awarding compensation in the case of nuclear damage shall be recognized and enforced as if it were a judgment of the Supreme Court of Judicature of Jamaica, except—

- (a) where the judgment was obtained by fraud;
- (b) where the party against whom the judgment was pronounced was not given a fair opportunity to present his case; or
- (c) where the judgment is contrary to the public policy of Jamaica or is not in accordance with fundamental principles of natural justice.

PART XIV—*Safeguards*

110.—(1) Nuclear material in Jamaica shall be used exclusively for peaceful purposes and in accordance with relevant international obligations undertaken by Jamaica. Peaceful use commitment.

(2) Nuclear weapons and other explosive devices, the direct or indirect control over the weapons or devices, the manufacture or other acquisition of the weapons or devices, and the seeking or receiving of any assistance in the manufacture of nuclear weapons or other explosive devices, are prohibited in Jamaica.

111.—(1) To ensure compliance with the relevant commitments of Jamaica under international obligations, the IAEA shall have the right to apply safeguards as provided for in the relevant agreements between Jamaica and the IAEA, and any protocols thereto. Application of safeguards.

(2) The Authority shall—

- (a) verify the implementation of the obligations of Jamaica arising under the Conventions;
- (b) collect and provide to the IAEA the information required to fully implement the safeguards agreement and any protocols thereto;
- (c) facilitate access by IAEA inspectors within Jamaica; and
- (d) co-ordinate with the Ministry responsible for foreign affairs in providing information to the IAEA in connection with the safeguards agreement.

112. Public bodies and authorization holders shall cooperate fully with the IAEA in the application of safeguards measures, including by— Cooperation in the application of safeguards.

- (a) forthwith providing all necessary information under the safeguards agreements;
- (b) providing access to locations as required by the safeguards agreement;
- (c) providing support to inspectors and IAEA inspectors in the performance of their functions; and

- (d) rendering to inspectors and IAEA inspectors all necessary cooperation in connection with their inspections.

Safeguards
inspections.

113. Duly authorized representatives of the Authority and designated inspectors of the IAEA shall have access to any location or facility as provided for under the safeguards agreement, with a view to conducting the verification activities authorized by the safeguards agreement.

System of
accounting
for and
control of
nuclear
material.

114. The Authority shall ensure the effective implementation of safeguards in Jamaica by establishing and implementing—

- (a) a system for the measurement of nuclear material;
- (b) a system for the evaluation of measurement accuracy;
- (c) procedures for reviewing measurement differences;
- (d) procedures for carrying out physical inventories;
- (e) a system for evaluation of unmeasured inventories;
- (f) a system of records and reports for tracking nuclear material inventories and flows;
- (g) procedures for ensuring that accounting procedures and arrangements are being operated correctly; and
- (h) procedures for reporting to the IAEA.

Responsibility
of
authorization
holders *re*
safeguards.

115. Authorization holders authorized to possess, use, handle or process nuclear material subject to the safeguards agreement shall—

- (a) maintain records as are prescribed by the Authority;
- (b) submit the prescribed reports to the Authority, in the form, and at the times, specified;
- (c) perform the measurements of nuclear material and maintain required measurement control programmes, as specified by Authority;
- (d) provide the Authority with information regarding the design of any facility, including any design changes, as specified by Authority;

- (e) conduct physical inventories of nuclear material, as specified by the Authority;
- (f) give notice to the Authority of the import or export of nuclear material, as specified by the Authority;
- (g) maintain physical protection and other security measures with respect to nuclear material, as specified by the Authority;
- (h) without delay, report to the Authority any loss of nuclear material in excess of limits prescribed by the Authority;
- (i) provide reports on planned future activities, as specified by the Authority;
- (j) allow authorized representatives of the Authority and designated officials of the IAEA to carry out, without hindrance, inspections at any facility or other location as provided for under this Act or the safeguards agreement.

116.—(1) Any person intending to carry out research and development activities related to the nuclear fuel cycle, as defined in the safeguards agreement, shall provide to the Authority information on these activities prior to their commencement.

Information requirements for research and development activities related to the nuclear fuel cycle.

(2) Any operator performing activities subject to the safeguards agreement shall submit to the Authority the information and data necessary for compliance by Jamaica with the undertakings by Jamaica arising under the safeguards agreement.

PART XV—Export and Import Controls

117. Controls over the export and import of radioactive material or nuclear material, or an ionizing radiation apparatus to and from Jamaica shall be conducted to advance the following objectives—

Objectives of export and import controls.

- (a) to protect the public and the environment and to ensure the security and economic interests of Jamaica;
- (b) to meet the obligations of Jamaica under relevant international instruments;

- (c) to support international cooperation in the safe and peaceful uses of nuclear energy; and
- (d) to support international efforts to prevent the proliferation of nuclear weapons and explosive devices or radiological dispersal devices.

PART XVI—*Nuclear Security and Physical Protection*

Regulation of
physical
protection.

118. The Authority shall establish requirements for the physical protection of nuclear and other radioactive material, including—

- (a) a categorization of radioactive material and nuclear material based on an assessment of the damage that could result from theft or diversion of a certain type and quantity of material from authorized uses, or from sabotage of a facility in which it is produced, processed, used, handled, stored or disposed of;
- (b) protection measures necessary for different categories of radioactive material and nuclear material;
- (c) accounting and control measures for radioactive material and nuclear material;
- (d) authorization requirements and procedures that include conditions for physical protection;
- (e) inspection and monitoring measures to verify compliance with applicable physical protection requirements;
- (f) enforcement measures in case of non-compliance with applicable regulations or authorization conditions.

Physical
protection-
responsibilities
of operator.

119.—(1) An authorization holder is primarily responsible for ensuring the physical protection of radioactive material or nuclear material and related facilities under applicable regulations and authorization conditions.

(2) Where there has been a theft, threat of theft or loss of radioactive material or nuclear material, the authorization holder shall—

- (a) notify the Authority without delay of the incident and circumstances thereof;

- (b) provide a written report, including particulars, to the Authority as soon as practicable after providing notice; and
- (c) provide the Authority with any additional information requested.

120.—(1) In the event of the theft, robbery or other unlawful taking, or a credible threat of an unlawful taking, of radioactive material or nuclear material, the Authority shall take appropriate steps as soon as possible to inform other States or international organizations that may be affected, of the circumstances of the incident.

International cooperation and assistance.

(2) The Authority shall be the central authority responsible for physical protection of radioactive material or nuclear material and for coordinating recovery and response in the event of any theft or unlawful taking of the radioactive material or nuclear material.

(3) In the event of the theft, robbery or other unlawful taking, or a credible threat of an unlawful taking, of radioactive material or nuclear material, the Authority shall be responsible for determining the necessary cooperation and assistance arrangements in the recovery and protection of the material to be agreed with any State or international organization that so requests.

(4) The Authority shall provide information on incidents involving the theft, robbery or any other unlawful taking of radioactive nuclear or nuclear material other radioactive or an ionizing radiation apparatus to the IAEA under arrangements established by the IAEA.

121.—(1) Every person who communicates information to someone else knowing that the communication could prejudice the physical security of nuclear material, or an ionizing radiation apparatus, commits an offence.

Communication prejudicing security of nuclear material, etc.

(2) Subsection (1) does not apply if the communication is authorized by a person who has been granted an authorization to possess the nuclear material or associated item.

Handling of
radioactive
material or
nuclear
material, *etc.*

122.—(1) A person commits an offence if, without lawful authority, he develops, acquires, manufactures, possesses, transports, transfers, or uses radioactive material or nuclear material, whether or not in conjunction or using their means of delivery—

- (a) with the intent to cause death or serious bodily injury;
- (b) with the intent to cause substantial damage to property or to the environment;
- (c) which causes death or serious injury to any person; or
- (d) which causes substantial damage to property or to the environment.

(2) A person commits an offence if he—

- (a) steals or robs any radioactive material or nuclear material or any ionizing radiation apparatus;
- (b) embezzles or fraudulently obtains any radioactive material, nuclear material or an ionizing radiation apparatus; or
- (c) carries, sends, or moves any radioactive material, nuclear material or an ionizing radiation apparatus,

into or out of Jamaica without lawful authority.

(3) A person who threatens to commit an offence set out in subsection (1) or (2) in order to compel any person, international organization or State to do or to refrain from doing any act commits an offence.

(4) A person who demands radioactive material or nuclear material, whether or not in conjunction or using a device, by threat, by use of force, or by any other form of intimidation, commits an offence.

Use of
radioactive
material, *etc.*

123.—(1) A person commits an offence if he, without lawful authority, uses or disperses in any manner any radioactive material or nuclear material, whether or not in conjunction or using their means of delivery—

- (a) with the intent to cause death or serious bodily injury;
- (b) with the intent to cause substantial damage to property or to the environment;

- (c) to compel any person, an international organization, or a State to do or refrain from doing an act;
- (d) which causes death or serious injury to any person; or
- (e) which causes substantial damage to property or to the environment.

(2) A person who threatens to commit an offence set out in subsection (1) commits an offence.

124. A person commits an offence if he makes a device which is calculated to be used for the unlawful dispersal of radioactive material or nuclear material.

Making device for unlawful dispersal of radioactive material.

Establishing Jurisdiction

125. Jamaica shall have jurisdiction over the offences set out in this Act as follows—

Jurisdiction.

- (a) when the offence is committed in Jamaica or on board a ship or aircraft registered in Jamaica;
- (b) when the alleged offender is a national or permanent resident of Jamaica;
- (c) when the alleged offender is present in Jamaica; and
- (d) when an act is done outside Jamaica, if the act is done in the course of the international transport of radioactive material or nuclear material or an ionizing radiation apparatus, and the shipment originates in Jamaica or Jamaica is the ultimate destination.

PART XVII—Offences Generally

126. A person commits an offence if the person, with intent to deceive—

Falsification of document or information.

- (a) forges, uses, lends to or allows to be used by any other organization or person, an authorization;
- (b) makes or has any document so closely resembling the authorization as to be calculated to deceive; or

- (c) knowingly provides false or falsified analytical results for the assessment of ionizing radiation levels.

Tampering with radiation sources sealed by authorized officer.

127. Every person who, without reasonable excuse, opens, alters, breaks or removes any seal placed by an authorized officer on a radiation source or its container or device, commits an offence.

Obstructing authorized officer, etc.

128. A person who, without reasonable excuse, hinders, assaults or obstructs any authorized officer or other person engaged in the administration of this Act, commits an offence.

Bribing authorized officer.

129. A person who bribes or attempts to bribe an inspector or other person engaged in the administration of this Act, commits an offence.

False or misleading information in application etc.

130. A person who knowingly makes any false declaration or false statement of a material nature in any application made under this Act or knowingly gives false or misleading information to any authorized officer or other person engaged in the administration of this Act, commits an offence.

Accepting bribes.

131.—(1) An authorized officer or other officer engaged in the administration of this Act who accepts any bribe in connection with any matter arising in the performance of any of his functions under this Act commits an offence.

PART XVIII—Penalties

Penalties and fixed penalties Eighth Schedule.

132.—(1) The offences specified in the first column of the Eighth Schedule shall incur the penalties specified in relation thereto in the second column of that Schedule.

(2) Subsections (2), (3), (4), (5), (6), (7), (8), (9), (10) and (11) shall apply to an offence specified in Part B of the Eighth Schedule.

(3) The Authority may give to any person which the Authority has reason to believe has committed an offence to which this section applies, a notice in writing in the prescribed form offering that person

the opportunity to discharge any liability to conviction of that offence by payment of a fixed penalty under this section.

(4) A person shall not be liable to be convicted for the offence if the fixed penalty is paid in accordance with this section and the requirement in respect of which the offence was committed is complied with before the expiration of the fifteen days following the date of the notice referred to in subsection (3) or such longer period (if any) as may be specified in that notice or before the date on which proceedings are begun, whichever event last occurs.

(5) Where a person is given notice under this section in respect of an offence, proceedings shall not be taken against the person for that offence until the end of the fifteen days following the date of the notice or such longer period (if any) as may have been specified therein.

(6) In subsections (4) and (5) "proceedings" means any criminal proceedings in respect of the act or omission constituting the offence specified in the notice under subsection (2) and "convicted" shall be construed in like manner.

(7) Payment of a fixed penalty under this section shall be made to the Collector of Taxes and in any proceedings, a certificate that payment of a fixed penalty was or was not made to the Collector of Taxes by a date specified in the certificate shall, if the certificate purports to be signed by the Collector of Taxes, be admissible as evidence of the facts stated therein.

(8) A notice under subsection (3) shall—

- (a) specify the offence alleged;
- (b) give such particulars of the offence as are necessary for giving reasonable information of the allegation;
- (c) state—
 - (i) the period (whether fifteen days or a longer period) during which, by virtue of subsection (5), proceedings will not be taken for the offence; and

- (ii) the amount of the fixed penalty and the Collector of Taxes to whom and the address at which it may be paid.

(9) The fixed penalty for the offences specified in Part B of the Eighth Schedule shall be the penalty specified therein in relation to such offences.

(10) In any proceedings for an offence to which this section applies, no reference shall be made after the conviction of the accused to the giving of any notice under this section or to the payment or non-payment of a fixed penalty thereunder unless in the course of the proceedings or in some document which is before the court in connection with the proceedings, reference has been made by or on behalf of the accused to the giving of such a notice, or, as the case may be, to such payment.

(11) The Minister may, by order, subject to affirmative resolution, make provision as to any matter incidental to the operation of this section, and in particular, any such order may prescribe—

- (a) the form of notice under subsection (3) and the Collector of Taxes to whom a fixed penalty is payable;
- (b) the nature of the information to be furnished to the Collector of Taxes along with any payment;
- (c) the arrangements for the Collector of Taxes to furnish to the Authority, information with regard to any payment under a notice under this section.

Offence by
body
corporate.

133. Where an offence under this Act is committed by a body corporate, each director, company secretary, member of the senior management or other officer of that company shall be liable to be prosecuted and punished in respect of the offence, unless the director, manager, company secretary, member of the senior management or other officer proves that the offence was committed without his knowledge or that he had taken all reasonable steps to prevent it.

PART XIX—*Enforcement*

134.—(1) For the purposes of this Act, an authorized officer may, at all reasonable times during business hours, enter the business premises of any authorization holder or any person reasonably suspected of being engaged in an activity or practice involving any radioactive material or a nuclear material or an ionizing radiation apparatus and inspect it, its labelling and storage, and any document.

Powers of entry, inspection and seizure.

(2) An authorized officer may, during the course of an inspection under subsection (1)—

- (a) seize and detain any radioactive material or a nuclear material or an ionizing radiation apparatus found on the premises which he reasonably believes is being used in contravention of any provision of this Act;
- (b) take samples of any radioactive material or a nuclear material or an ionizing radiation apparatus found on the premises.

(3) Where any radioactive material or a nuclear material or an ionizing radiation apparatus is seized and detained under subsection (2) (a), the authorized officer shall cause it to be stored or disposed of in the prescribed manner.

135.—(1) Where an authorized officer has reasonable cause to suspect that any vehicle, article, enclosure, container or other storage facility, device or apparatus (hereinafter referred to as “specified equipment”) is being used or has been used in committing an offence against this Act, the authorized officer may, without warrant, search the specified equipment, and if the search reveals evidence that the specified equipment is being used or has been used for committing any offence as aforesaid, the authorized officer may seize and detain the equipment.

Vehicles, etc. may be seized and detained.

(2) Where any specified equipment is seized under subsection (1) and—

- (a) any person is convicted of an offence against this Act; and

(b) the Court is satisfied that—

- (i) the person owns the specified equipment used in the commission of the offence;
- (ii) the owner thereof permitted it to be so used; or
- (iii) the circumstances are otherwise such that it is just to do so,

the Court shall, upon the application of the Director of the Public Prosecutions, order the forfeiture of the specified equipment.

(3) Upon the application of the Director of Public Prosecutions in relation to any specified equipment seized under subsection (1), before a Court, the Court may, notwithstanding that the conditions mentioned in subsection (2) have not been satisfied, order the forfeiture of the specified equipment if the Court is satisfied that—

- (a) the specified equipment has been abandoned; or
- (b) the circumstances in which the specified equipment was seized give reasonable cause to suspect that the specified equipment was being used or had been used for the purpose of committing an offence against this Act; and
- (c) it is otherwise just to do so.

(4) Where the Director of Public Prosecutions intends to apply for the forfeiture of any specified equipment under subsection (2) or (3), he shall give to any person who, to his knowledge was at the time of the seizure, the owner thereof, notice of the seizure and the intention, after the expiration of thirty days from the date of the notice, to apply for forfeiture thereof and of the grounds therefor, so, however, that notice shall not be required to be given under this subsection if the seizure was made in the presence of the owner or any servant or agent of the owner.

(5) If, upon the application of the Director of Public Prosecutions, the Court is satisfied that, reasonable efforts having

been made, it is not possible to locate the owner, the Court may make the order for the forfeiture of the specified equipment notwithstanding that the notice has not been given.

(6) Any person having a claim to any specified equipment seized under subsection (1) may appear before the Court on the hearing of the application and show cause why an order for forfeiture should not be made.

(7) Where, on the hearing of the application under this section, no person appears before the Court to show cause as mentioned in that subsection, the Court shall presume that the specified equipment has been abandoned.

(8) If, upon the application of any person prejudiced by an order made by the Court under this section, the Court is satisfied that it is just to revoke that order, the Court may revoke it upon the terms and conditions as it deems appropriate, and, without prejudice to the generality of the foregoing, shall require the person to pay in respect of storage, maintenance, administrative expenses, security and insurance of the specified equipment, such charge as may be imposed by the appropriate government agency and approved by the Court, not exceeding one and a half times the value of the specified equipment as determined by the Court.

(9) An application to the Court under subsection (8), for the revocation of an order shall be made within thirty days of the date of the order or the longer period, not exceeding six months from that date, as the Court may allow.

(10) References in this section to "Court" are references to a Judge in Chambers.

136.—(1) An authorized officer may, without warrant, arrest any person where the authorized officer has reasonable grounds to believe that the person has committed or is committing an offence against the Act.

Arrest
without
warrant.

(2) Where an authorized officer arrests a person under subsection (1), he shall produce his identification card for inspection to that person unless it is not reasonably practicable to do so.

(3) Where a person is arrested under subsection (1), an authorized officer shall immediately bring or cause the person to be brought to the nearest police station.

Search
warrant.

137.—(1) Where a Justice of the Peace is satisfied by information on oath by an authorized officer that there is reasonable ground for suspecting—

- (a) there is in the possession or under the control of any person on any premises in contravention of the provisions of this Act or of the regulations—
 - (i) any radioactive material or nuclear material or ionizing radiation apparatus to which this Act applies;
 - (ii) any document directly or indirectly relating to or connected with any transaction or dealing in any radioactive material or nuclear material or ionizing radiation apparatus which, if carried out would be an offence against this Act; or
 - (iii) any document relating to a transaction or dealing carried out or intended to be carried out in any place outside the island which would be an offence against the provisions of any corresponding law in force in that place; or
- (b) that an offence against this Act has been committed on any premises in relation to the radioactive material or nuclear material or ionizing radiation apparatus,

the Justice may grant a search warrant in accordance with subsection (2).

(2) A warrant referred to in subsection (1) shall authorize any authorized officer, at any time or times within one month from the date of the warrant, to—

- (a) enter the premises mentioned in subsection (1), using force if necessary, and seize and detain any document

mentioned in that subsection radioactive material or nuclear material or ionizing radiation apparatus; or

- (b) detain anything that the authorized officer believes, on reasonable grounds, will afford evidence as to the commission of a criminal offence.

PART XX—General

138. The Minister may, by order, subject to affirmative resolution—

Minister may
amend
monetary
penalties and
Schedules.

- (a) amend or vary any monetary penalties prescribed in this Act; or
- (b) amend any of the Schedules to this Act (other than the custodial penalties specified in the Eighth Schedule).

Eighth
Schedule.

139.—(1) The Minister may make regulations for the control of activities related to radioactive material, nuclear material and radiation apparatuses and for the protection of people and the environment against the harmful effects of radiation, and without limiting the generality of the foregoing, the regulations may—

Regulations.

- (a) specify standards to be observed, practices and procedures to be followed, and measures to be taken;
- (b) establish practices and procedures that shall be followed, and measures that shall be taken, to further the achievement of the standards referred to in paragraph (a);
- (c) regulate, restrict or prohibit any act or thing that is involved in or related to an activity or practice;
- (d) make provision for or in relation to the grant of authorizations and the terms or conditions to which they are subject;
- (e) make provision for or in relation to the giving of directions for the purposes of the regulations;
- (f) make provision for or in relation to the protection of the health and safety, and the training, examination, registration

and certification, of radiation workers or classes of radiation workers;

- (g) make provision for or in relation to the medical examination of radiation workers and other persons exposed to radiation;
- (h) make provision for or in relation to the keeping of records, furnishing of information, and notification of accidents or other matters or events;
- (i) make provision for the monitoring of levels of radiation exposure of radiation workers and persons employed or engaged in activities and practices and the monitoring of the health of such persons during and after such employment or engagement;
- (j) prescribe the manner and form in which applications for authorizations are to be made;
- (k) prescribe fees for the purposes of this Act, being fees which may vary according to prescribed factors;
- (l) authorize the release of information obtained in the administration of this Act;
- (m) define exemptions from regulatory control;
- (n) make provisions for or in relation to radiation material or nuclear material or ionizing radiation apparatuses;
- (o) make provisions in relation to the illicit trafficking and brokering of radiation material or nuclear material or ionizing radiation apparatuses;
- (p) make provisions in relation to the transit and transshipment of radiation material or nuclear material or an ionizing radiation apparatus.

(2) The regulations may—

- (a) refer to or incorporate, wholly or partially and with or without modification, any established code or standard that is in force at a particular time or from time to time; and

- (b) be of general application or limited according to time, place or circumstances.

(3) If a code or standard is referred to or incorporated in the regulations, evidence of the contents of the code or standard may be given in any legal proceedings by production of a document apparently certified by the Authority to be a true copy of the code or standard.

(4) Notwithstanding section 29(b) of the *Interpretation Act*, regulations made under this section may provide in respect of a breach of any provision thereof, on summary conviction in a Resident Magistrates' Court, for a fine not exceeding one million dollars.

140. This Act binds the Crown.

Application
to Crown.

PART XXI—*Transitional Provisions*

141.—(1) As from the commencement date, the provisions of this Act shall be applied to all pending applications for licences, permits or other authority.

Transitional
provisions.

(2) Any licences, permits or other authority granted prior to the commencement date in respect to any prescribed activity shall continue to be valid, so, however, that they shall expire, at the latest, ninety days after the commencement date, if it has not then expired.

(3) Any person engaging in a prescribed activity on the commencement date shall apply for an authorization as required in this Act within ninety days after the commencement date or such longer period as the Authority may, in writing allow.

(4) The Authority may, by notice in writing, vary or revoke any licences, permits or other authority granted prior to the commencement date in respect to any prescribed activity, to the extent that it is inconsistent with this Act.

142.—(1) This Act shall be renewed, by a Committee of both Houses of Parliament appointed for that purpose.

Review of
Act.

(2) The review shall be conducted not later than three years after the date of commencement of the Act.

*Conventions and Related International Instruments**Conventions*

1. Treaty on the Non-Proliferation of Nuclear Weapons.
2. Convention on the Physical Protection of Nuclear Materials.
3. International Convention for the Suppression of Acts of Nuclear Terrorism.
4. International Maritime Organization Conventions.

Related international instruments:

1. United Nations Security Council Resolution 1373 (UNSCR 1373).
2. United Nations Security Council Resolution 1540 (UNSCR1540).
3. IAEA Safeguards Agreement in connection with the Treaty on the Non-proliferation of Nuclear Weapons and Protocol Additional to the Agreement.
4. International Health Regulations, 2005 made by the world Health Organization.

SECOND SCHEDULE

(Section 2)

Activities and Practices for which Authorization is Required

1. An authorization in the form of a licence shall be issued for—

- (a) operation of a facility;
- (b) use of radiation material or nuclear material or an ionizing radiation apparatus for economic, medical or scientific, agricultural and industrial purposes or for process control;
- (c) manufacture of sources of ionizing radiation;
- (d) handling of sources of ionizing radiation for the purpose of maintenance, assembly, dismantling, measurement, construction and repair work and services;
- (e) transport of radioactive material or nuclear material or ionizing radiation apparatuses;
- (f) decommissioning of a facility;
- (g) disposal of radiation material or nuclear material or an ionizing radiation apparatus.

2. An authorization in the form of a permit shall be issued for—

- (a) selecting a location for a facility (siting);
- (b) design or redesign of a facility;
- (c) construction, establishment or demolition of a facility;
- (d) commissioning of a facility;
- (e) activities or practices leading to the modification of—
 - (i) structures, systems and components important for the safety and security of the facility;
 - (ii) limits and conditions for operation of a facility, subject to which the authorization has been issued;
 - (iii) internal rules for conduct of the activity, including instructions, programmes, technical specifications and other specifications attached to the operating authorization for a facility;
- (f) construction of a radiation installation assembly and pretesting of a facility;

- (g) temporary storage of radioactive material or nuclear material resulting from the performance of an activity or practice involving sources of ionizing radiation or associated with the activity or practice;
- (h) import and export of radiation material or nuclear material or ionizing radiation apparatuses;
- (i) import and export of nuclear material.

3. An authorization in the form of a certificate of registration shall be issued to each member of a prescribed class of radiation workers.

THIRD SCHEDULE (Sections 6(2) and 8(2))

The Hazardous Substances Regulatory Authority

PART I

Financial Provisions, Accounts and Reports

Funds and
resources of
Authority.

1.—(1) The funds and resources of the Authority shall consist of—

- (a) such sums as may, from time to time, be placed at the disposal of the Authority by Parliament; and
- (b) all other sums and other property which may, in any manner, become payable to or vested in the Authority in respect of any matter relating or incidental to its functions.

(2) The expenses of the Authority, including the remuneration of officers and employees, shall be paid out of the funds of the Authority.

Power to
invest
moneys, etc.

2. All moneys of the Authority not immediately required to be expended for the purpose of meeting any of the obligations or discharging any of the functions of the Authority may be invested in such securities or other investments as may be approved, either specifically or generally, by the Minister responsible for finance and the Authority may sell any or all of the securities or other investments.

Accounts and
audit.

3.—(1) The Authority shall keep proper accounts and other records in relation to its business and shall prepare annually a financial statement in a form satisfactory to the Minister being a form which conforms with established accounting principles.

(2) The accounts of the Authority shall be audited annually by annually by an auditor appointed by the Authority with the approval of the Minister or by the Auditor-General, if the authority so elects.

(3) An auditor so appointed shall be registered public accountant within the meaning of section 2 of the Public Accountancy Act.

(4) The members of the Board and the officers and employees of the Authority shall—

- (a) grant to the auditor appointed under paragraph (2), access to all books or other documents, cash and securities of the Authority; and
- (b) give to the auditor, upon request, all such information as may be within their knowledge in relation to the business of the Authority.

(5) The auditor's fee, if applicable, and any expenses of the audit, shall be paid by the Authority.

(6) The Auditor-General shall be entitled at all reasonable times to examine the accounts and other records of the Authority in relation to the business of the Authority.

4. The Authority shall furnish the Minister with such returns, accounts and other information as he may require with respect to the activities of the Authority and afford him facilities for verifying the information in such manner and at such time as he may reasonably require. Returns, etc.

Seal and Execution of Documents

5.—(1) The seal of the Authority shall be—

- (a) kept in the custody of the chairman or the secretary of the Board; and
- (b) authenticated by the signatures of the chairman or any other member of the Authority authorized to act in that behalf by the Authority, and the secretary of the Board.

Seal and
execution of
documents.

(2) All documents (other than those required by law to be under seal) made by, and all decisions of, the Authority may be signified under the hand of the chairman or any member authorized to act in that behalf, or the secretary of the Board.

PART II

The Board of Governors of the Authority

1.—(1) In addition to the persons referred to in sub-paragraph (2), the Board shall comprise seven members, appointed by the Minister, in writing, Constitution
of Board.

(hereinafter referred to as the "appointed members") from among each of the following categories—

- (a) a medical physicist, radiation physicist or a senior physical scientist with such level of training and experience in the field of radiation protection and safety as the Minister determines is adequate, who shall be the chairman;
- (b) a medical physicist;
- (c) a registered medical practitioner working in the field of public health;
- (d) a radiation chemist;
- (e) a radiation physicist;
- (f) an attorney-at-law; and
- (g) a person who by virtue of his legal, regulatory or compliance background can contribute meaningfully to the work of the Board.

(2) The Director-General and the Chief Medical Officer shall be a member of the Board *ex officio*.

Disqualification
for
appointment.

2.—A person shall not be qualified for appointment as a member of the Board if the person—

- (a) is a member of the Senate or the House of Representatives;
- (b) has been convicted of an offence involving fraud, dishonesty or moral turpitude; or
- (c) is an undischarged bankrupt.

Temporary
appointments.

3. The Minister may appoint any person to act temporarily in the place of any member of the Board in the case of the absence or inability to act of such member in keeping with the composition of the Board.

Absence of
chairman.

4. In the case of the chairman being absent from or unable to act at any meeting, members of the Board present at the meeting shall elect one of the appointed members to act as chairman at that meeting.

Leave of
absence.

5. On the application of any member, the Minister may grant leave of absence to the appointed member.

Tenure of
office.

6.—(1) Subject to the provisions of this Schedule, the appointment of every member of the Board shall be evidenced by an instrument in writing.

(2) The instrument shall specify the period of office of the member of the Board, which shall not exceed three years.

(3) Every member of the Board shall be eligible for reappointment, however, a member of the Board shall not serve longer than two consecutive terms.

7.—(1) The office of a member of the Board becomes vacant if the member— Vacancy.

- (a) dies;
- (b) completes the specified period of office and is not reappointed;
- (c) resigns under paragraph 8; or
- (d) is removed from office under paragraph 9.

(2) On the office of a member of the Board becoming vacant, a person will be appointed in accordance with this Act to the vacant office, but if the office of a member becomes vacant before the expiration of a term of appointment, the successor will be appointed only for the balance of the term.

8.—(1) The chairman may, at any time, resign his office by instrument in writing addressed to the Minister. Resignation.

(2) The resignation shall take effect as from the date of receipt by the Minister of the instrument.

(3) A member of the Board other than the chairman may, at any time, resign his office by instrument in writing addressed to the Minister and transmitted through the chairman.

(4) From the date of the receipt by the Minister of the instrument, the member shall cease to be a member of the Board.

9. The Minister may revoke the appointment of any member of the Board if the member— Revocation of appointment.

- (a) becomes of unsound mind, mentally or physically incapable or becomes permanently unable to carry out the duties of office satisfactorily;
- (b) becomes bankrupt or compounds with, or suspends payment to, his creditors;
- (c) is convicted and sentenced to a term of imprisonment or to death;
- (d) becomes disqualified for appointment by virtue of paragraph 2;
- (e) fails, without reasonable excuse, to carry out any of the functions conferred or imposed on him under this Act for a continuous period of three months;

- (f) without reasonable excuse, breaches, or fails to comply with, any conditions of appointment; or
- (g) fails to attend three consecutive meetings of the Board, or any of its committees, without excuse or reasonable explanation.

Publication of
membership.

10. The names of members of the Board, as first constituted, and every change in the membership thereof shall be published in the *Gazette*.

Procedure and
meetings.

11.—(1) The Board shall meet at such times as may be necessary or expedient for the transaction of business and the meetings shall be held at such places and times and on such days as the Board may determine.

(2) The chairman may, at any time, call a special meeting of the Board and shall call a special meeting within seven days of the receipt of a written request for that purpose addressed to him by any two members of the Board.

(3) The chairman or, in the case of his absence or inability to act, the deputy chairman or person elected in accordance with paragraph 4(3), as the case may be, shall preside at meetings of the Board.

(4) Subject to subparagraph (5), each member present at a meeting of the Board has one vote on any question arising for decision so, however, that in addition to an original vote the chair-man, deputy chairman or other member presiding at a meeting shall have an original and a casting vote in any case in which the voting is equal.

(5) Subject to this Schedule, a quorum of the Board consists of one half the total number of its members (not including any fraction resulting from the division) plus one other member.

(6) A conference by telephone or other electronic means between the members of the Board will, for the purposes of this paragraph, be taken to be a meeting of the Board at which the participating members are present if—

- (a) notice of the conference is given to all members in the manner determined by the Board for the purpose; and
- (b) each participating member is capable of communicating with every other participating member during the conference.

(7) A proposed resolution of the Board becomes a valid decision of the Board despite the fact that it is not voted on at a meeting of the Board if—

- (a) notice of the proposed resolution is given to all members of the Board in accordance with procedures determined by the Board; and
- (b) a majority of the members express concurrence in the proposed resolution by letter, telegram, telex, fax, e-mail or other written communication setting out the terms of the resolution.

(8) The minutes of each meeting of the Board shall be kept in proper form and shall be confirmed by the chairman as soon as practicable at a subsequent meeting.

(9) Subject to the provisions of this Schedule, the Board may regulate its own proceedings.

(10) The validity of any proceedings of the Board shall not be affected by any vacancy among the members or by any defect in the appointment of a member.

12. There shall be paid from the funds of the Commission to the chairman, deputy chairman and other members of the Board such remuneration (whether by way of honorarium, salaries or fees) and such allowances, as the Minister may determine. Remuneration.

13.—(1) A member who is in any way directly or indirectly interested in a contract made or proposed to be made by the Board, or in any other matter which falls to be considered by the Board, shall disclose or cause to be disclosed the nature of his interest at a meeting of the Board and the disclosure shall be recorded in the minutes of the meeting and the member shall not— Disclosure of interest.

- (a) in the case of a contract, take part in any deliberation or decision of the Board with respect to the contract; and
- (b) in the case of any other matter, take part in any deliberation or decision of the Board with respect to the matter if the Board decides that the interest in question might affect prejudicially the member's consideration of the matter,

and shall further excuse themselves from the meeting while the matter is under discussion.

(2) A notice given by a member at a meeting of the Board to the effect that he is a member of a specific company, firm or other body and is to be regarded as interested in any contract which is made after the date of the notice with the company, firm or body shall, for the purposes of sub-paragraph (1), be a sufficient disclosure of his interest in relation to any contract so made.

(3) A member need not attend in person a meeting of the Board in order to make a disclosure which he is required to make under this paragraph, if he takes reasonable steps to ensure that the disclosure is made by notice which is taken into consideration and read at the meeting.

Service of documents.

14. Any summons, notice or other document required or authorized to be served upon the Board under the provisions of this or any other enactment may, unless there is express provision to the contrary, be served by delivering same to the chairman or secretary, or by sending it by registered post addressed to the secretary at the principal office of the Commission.

Appointment of committees.

15.—(1) The Board may, with the approval of the Minister, appoint committees for special purposes connected with the functions of the Board and which, in the opinion of the Board, would be better regulated and managed by means of committees.

(2) The number of members of a committee appointed under subparagraph (1), the terms of appointment of the members, the quorum of the committee and the areas within which the committees are to exercise authority shall be determined by the Board.

(3) A committee shall not act of its own motion but only in relation to matters referred to it by the Board.

(4) A committee appointed under this paragraph may include persons who are not members of the Board but shall include at least two of the members of the Board.

(5) Paragraph 11(8) shall apply *mutatis mutandis* to a member of a committee who is not a member of the Board as it applies to a member of the Board.

(6) Committees of the Board shall make recommendations to the full Board for its ratification and decision.

(7) Subject to this Act, the procedure for meetings of committees shall be determined by the presiding member of the committee.

Office of chairman or member not a public office.

16. The office of chairman, deputy chairman or, member of the Board or any of its committees shall not be a public office for the purpose of Part V of the Constitution of Jamaica.

FOURTH SCHEDULE

(Section 73(2))

The Hazardous Substances Appeal Tribunal

Constitution of the Tribunal.

1.—(1) The Tribunal shall consist of a chairman and at least two other members appointed by the Minister, being persons appearing to the Minister to be knowledgeable in matters relating to radiation or nuclear safety and security.

(2) For the hearing of an appeal under this Act, the Tribunal may consist of one member sitting alone, if the parties to the appeal agree.

2. The members of the Tribunal shall, subject to the provisions of this Schedule, hold office for such period, not exceeding three years, as the Minister may determine and shall be eligible for reappointment. Tenure of office of members.
3. The Minister may appoint any person to act in place of the chairman or any other member of the Tribunal in case of the absence or inability to act of the chairman or other member. Acting appointment.
- 4.—(1) Any member of the Tribunal (other than the chairman) may, at any time, resign his office by instrument in writing addressed to the chairman, who shall forthwith cause it to be forwarded to the Minister and, from the date of the receipt by the chairman of such instrument, such member shall cease to be a member of the Tribunal. Resignations.
- (2) The chairman may, at any time, resign his office by instrument in writing addressed to the Minister and, from the date of the receipt by the Minister of such instrument, such chairman shall cease to be chairman or a member of the Tribunal.
5. The Minister may, if he thinks it expedient so to do, at any time revoke the appointment of the chairman or any other member of the Tribunal. Revocation of appointments.
6. If any vacancy occurs in the membership of the Tribunal, such vacancy shall be filled by the appointment of another member who shall, subject to the provisions of this Schedule, hold office for the remainder of the period for which the member was appointed. Filling of vacancies.
7. The names of the members of the Tribunal as first constituted and every change in membership thereof shall be published in the *Gazette*. Publication of membership.

FIFTH SCHEDULE

(Sections 91 and 92)

RESEARCH REACTORS

Role of the Operator in Relation to Research Reactors

1. The operator shall establish, in accordance with this Act and the regulations its own policies that— Paramountcy of safety.
- (a) give safety matters the highest priority;
 - (b) promote a strong nuclear safety and security culture;
 - (c) sets out divisions of responsibility and lines of communication;
 - (d) are implemented within a management structure having clearly defined divisions of responsibility and lines of communication.

Assessment
and
verification of
safety.

2.—(1) The operator shall—

- (a) carry out a comprehensive and systematic safety assessment, and prepare a safety analysis report, which shall be submitted to the Authority and approved before the operator commences the construction and commissioning of the research reactor; and
- (b) carry out safety reviews at appropriate intervals throughout its life, including in relation to modifications, changes in utilization and significant experimental activities, and the management of ageing.

(2) The safety assessments and periodic safety reviews shall—

- (a) include all technical, operational, personnel and administrative aspects of safety related operations;
- (b) be well documented, updated in light of operating experience and significant new safety information, and submitted to the Authority; and
- (c) verify by analysis, surveillance, testing and inspection, that the physical state and the operation of a research reactor continue for the life of the research reactor in accordance with its design, safety analysis, applicable national safety requirements, and operational limits and conditions.

Financial
resources.

3. The operator shall ensure that there is an overall effective financing system for the safe and secure operation of the research reactor, including for any extended shutdown state, and for decommissioning.

Qualified staff.

4.—(1) The operator shall make available sufficient numbers of staff, qualified through appropriate education and training (initial and ongoing), for all safety related activities, throughout the life of the research reactor.

(2) Appropriate training shall be provided for radiation workers who will use experimental facilities associated with the research reactor.

Quality
assurance.

5.—(1) The operator shall establish and implement effective quality assurance programmes with a view to providing confidence that specified requirements for all activities important to nuclear safety and security are satisfied throughout the life of the research reactor.

(2) Radiation workers who participate in experimental activities associate with a research reactor shall be required to work within the relevant quality assurance programme and safety arrangements established by the operator.

6. The operator shall take into account the capabilities and limitations of human performance throughout the life of the research reactor, during operational states and in accident conditions, and shall take into account human factors relating to experiments. Human factors.

7. The operator shall—

(a) in all operational states, keep the radiation exposure from the research reactor to radiation workers and members of the public as low as reasonably achievable, taking in account social and economic factors; and

(b) shall ensure that no individual incurs a radiation dose which exceeds the prescribed dose limit.

Radiation protection.

8. The operator shall also respond to any guidance that is provided by the Authority in relation to the protection of the environment from the harmful effects of ionizing radiation. Protection of environment.

9. The operator shall establish, and maintain by training and exercises, appropriate emergency plans in accordance with established criteria of the Authority, and in cooperation with other appropriate bodies, to provide an effective response to emergencies. Emergency preparedness.

Safety of Research Reactors

10. The operator shall establish, implement and maintain appropriate procedures for— Sitting.

(a) evaluating all relevant site-related factors likely to affect the safety and security of the research reactor over its projected life;

(b) evaluating the potential safety and security impact of a planned research reactor on the public and the environment; and

(c) re-evaluating the matters set out in paragraphs (a) and (b) at appropriate times so as to ensure the continued safety and security acceptability of the research reactor.

11. The operator shall ensure that—

(a) the design and construction of the research reactor provide for several reliable levels and methods of protection (defence in depth) against the release of radioactive material, with a view to preventing the occurrence of accidents and to mitigating their radiological consequences, should they occur;

Design, construction and commissioning.

- (b) the design of the research reactor allows for reliable, stable and easily manageable operation, with specific consideration of human factors and the human-machine interface;
- (c) the construction of the research reactor is in accordance with the approved design, and any approved modifications to the design;
- (d) the technologies incorporated in the design and construction of the research reactor are proven by experience, testing or analysis;
- (e) the commissioning programme demonstrates that the design objectives and performance criteria of the structures, systems and components of the research reactor that are important to safety have been achieved.

Operation, Maintenance, Modification and Utilization

Operation,
maintenance,
modification
and utilization.

12. The operator shall—

- (a) establish and revise as necessary operational limits and conditions derived from the safety analysis, tests, commissioning programme and operational experience to identify the limiting conditions for safe operation;
- (b) conduct operation, utilization, modification, maintenance, inspection and testing activities that are important to the safety and security of the research reactor, in accordance with approved procedures and regulations;
- (c) establish procedures for responding to anticipated operational occurrences and to accidents;
- (d) have available the necessary engineering and technical support in all safety-related fields throughout the life of the research reactor, including through international cooperation;
- (e) report, to the Authority, events that are significant to safety, analyze the events and act upon the findings, to improve safety in a timely manner;
- (f) undertake any modifications to the research reactor over its life in accordance with the design, construction and commissioning provisions referred in this Part;
- (g) assess appropriately any modifications to any part of the research reactor that are proposed in connection with experiments;
- (h) establish a safety review committee, as part of the operator, that reports to the senior executive management of the operator independently of the reactor management, to advise the operator on safety matters;

- (i) subject each utilization project having safety significance, including any modification of the research reactor, new construction or the installation of any experimental device, to an appropriate level of safety assessment and approval;
- (j) keep the generation of radioactive waste resulting from the operation and utilization of the research reactor to the minimum practicable for the process concerned, both in activity and in volume, and ensure that there are effective arrangements for the safe management of the waste at the site of the research reactor; and
- (k) maintain records in a secure and organized manner throughout the life of the research reactor to assist in its safe operation and ultimate decommissioning.

(3) The records referred to in paragraph (2)(k) shall include updated technical information and drawings of the research reactor and records of operation and events.

Extended Shutdown of Research Reactors

13.—(1) If unusual and compelling circumstances make it necessary for a research reactor to enter into, or to continue in, a state of extended shutdown, the operator shall, as may be appropriate, prepare and implement a technical preservation programme to maintain the safety of the reactor and the reactor fuel, which shall be approved by the Authority.

Technical
preservation
programme.

(2) The technical preservation programme shall include—

- (a) arrangements for ensuring that the reactor core remains subcritical, which arrangement shall take into account that if appropriate measures exist for storing the fuel safely, it is preferable to unload the core;
- (b) procedures and measures to disconnect, dismantle and preserve systems that are to be taken out of operation or temporarily dismantled;
- (c) modifications of the safety analysis report and the operational limits and conditions;
- (d) arrangements for dealing with the fuel and radioactive waste in the research reactor;
- (e) regular surveillance and periodic inspection, testing and maintenance activities to ensure that the safety performance of structures, systems and components does not degrade;

- (f) revised emergency planning arrangements;
- (g) staffing requirements to undertake the tasks necessary to keep the research reactor in a safe condition and to maintain knowledge about the research reactor.

Decommissioning of Research Reactors

Duty to have regard to decommissioning.

14. The operator shall ensure that siting, design, construction, operation, maintenance and utilization of the research reactor are carried out in a manner that takes into consideration the ultimate decommissioning of the research reactor.

Duty to prepare decommissioning plan, etc.

15.—(1) The operator shall prepare a comprehensive decommissioning plan and an assessment of the environmental impact for review and approval by the Authority, prior to commencing decommissioning activities.

(2) The elements of the comprehensive decommissioning plan shall include—

- (a) the broad decommissioning option to be pursued and the justification for choosing that option;
- (b) the decontamination and dismantling techniques to be applied so as to minimize waste generation and airborne contamination;
- (c) arrangements for dealing with the fuel and radioactive waste arising from the research reactor;
- (d) arrangements for radiation protection during the decommissioning process; and
- (e) a description of the volumes, activities and types of waste to be generated in the decommissioning and the means proposed to manage the waste safely.

Regulation of research reactors.

16. The Authority may make regulations for the regulation of research reactors, including—

- (a) criteria for the siting, design, construction, commissioning, operation, maintenance and decommissioning of research reactors;
- (b) assessment and verification of safety and security by the operator and by the Authority;
- (c) financial and human resources necessary to ensure safety and security;
- (d) management systems to be put into place by the operator at the different stages of the life of the research reactor;

- (e) human factors to be taken into account by the operator during the life of the research reactor;
- (f) radiation protection programmes to ensure that radiation doses to workers and the public are within prescribed dose limits and are as low as reasonably achievable, social and economic factors being taken into account;
- (g) emergency preparedness and response plans and programmes;
- (h) criteria for a technical preservation programme to maintain the safety and security of research reactors in extended shutdown; and
- (i) funding arrangements for decommissioning and radioactive waste management.

SIXTH SCHEDULE

(Section 94)

Decommissioning of Facilities

1.—(1) The Authority shall establish requirements for the decommissioning of facilities, including—

Decommissioning of facilities.

- (a) safety and environmental criteria, including conditions on the end state of decommissioning;
- (b) limits and conditions for the removal of regulatory controls for facilities containing radionuclides; and
- (c) criteria for the clearance of radioactive material or nuclear material during and after decommissioning.

(2) The Authority shall ensure that relevant records prepared by the operator are maintained for the prescribed period of time before, during and after decommissioning.

(3) The Authority shall establish criteria for determining when a facility shall be permanently shut down.

(4) The Authority shall evaluate the end state of the facility after decommissioning activities have been completed to ensure that relevant regulatory requirements have been met.

(5) The facility shall not be released by the Authority from regulatory control until the operator has demonstrated that the end state in the decommissioning plan has been reached and that any other additional regulatory requirements have been met.

2.—(1) At the design stage of a facility, the applicant for an authorization to construct and operate a facility shall prepare an initial decommissioning plan for approval by the Authority.

Decommissioning plan.

(2) The decommissioning plan shall be commensurate with the type and status of the facility and the hazards that may be associated with its decommissioning.

(3) The Authority shall ensure that any person who the Authority considers to have a particular interest in the matter is provided an opportunity to review and comment upon the decommissioning plan prior to its approval.

(4) The Authority shall require the operator to provide periodic reviews and updates of the decommissioning plan and shall specify the maximum time interval between the reviews and updates.

(5) If specific circumstances could result in significant changes to the decommissioning plan, the operator shall, at the request of the Authority, revise and update the plan to reflect these changed circumstances and submit it to the Authority for review.

(6) The Authority shall—

- (a) require that a final decommissioning plan be prepared and submitted for approval prior to the implementation phase of decommissioning activities; and
- (b) shall not commence the implementation phase until the plan is approved by the Authority.

(7) On completion of decommissioning, the Authority shall require that appropriate records for confirmation of the completion of decommissioning activities in accordance with the approved decommissioning plan are maintained.

(8) Records for confirmation of the completion of decommissioning activities under subsection (7) shall include—

- (a) records of the premises and of the disposal of radioactive waste and material; and
- (b) all documentation that is necessary for responding to possible liability claims.

Responsibilities
of the operator
in decommis-
sioning.

3. In implementing decommissioning activities at a facility, the operator shall be responsible for the following—

- (a) ensuring safety, security and environmental protection, including any activities conducted by contractors or subcontractors;
- (b) preparing the safety and environmental impact assessments necessary for implementation of the decommissioning plan;

- (c) establishing a record-keeping system of the key issues and modifications during the life of the facility that may have an impact on decommissioning;
- (d) ensuring that the baseline survey of the site is performed in an effective and timely manner;
- (e) ensuring that new or untried methods for decommissioning are justified, addressed and submitted for approval to the Authority;
- (f) informing the Authority, within two months of a decision to permanently shut down a facility and submitting an application to decommission the facility, together with a proposed final decommissioning plan, within two years of permanent cessation of operation;
- (g) in the case of deferred dismantling, ensuring that the facility has been placed and will be maintained in a safe configuration and will be adequately decommissioned in the future;
- (h) establishing and maintaining a management organization and personnel resources to ensure that decommissioning can be completed safely, including ensuring that responsible persons possess the necessary skills, expertise and training for safe decommissioning;
- (i) establishing and maintaining emergency planning arrangements commensurate with the associated hazards, and reporting significant incidents to the Authority; and
- (j) ensuring that adequate financial arrangements are made for all stages of the decommissioning process.

4.—(1) An applicant for an authorization to construct and operate a facility shall ensure that adequate financial resources will be available when needed to cover the costs associated with safe decommissioning, including management of the resulting waste.

Financing of
decommis-
sioning.

(2) The Authority shall make specific arrangements for facilities in operation.

(3) The operator shall provide adequate financial resources to cover the costs associated with safe decommissioning, including management of the resulting waste.

(4) The amount of the financial resources to be made available for decommissioning activities shall be commensurate with a facility-specific cost estimate for decommission activities and shall be changed if the cost estimate increases or decreases.

(5) The cost estimate for decommissioning activities shall be reviewed as part of the periodic review of the decommissioning plan.

(6) For existing facilities for which financial resources for decommissioning are not available, the Authority shall require the operator of a facility to make provisions for future financial assistance for decommissioning; prior to authorization renewal or extension.

SEVENTH SCHEDULE

(Section 95)

*Mining and Processing of Radioactive
Material and Nuclear Material*

Regulation of
mining and
processing.

1.—(1) If the Authority consider it necessary in the interest of safety and security, the Authority shall establish requirements for authorizations to conduct activities related to mining and processing operations involving materials that could pose health and safety risks from exposure to ionizing radiation, including the following—

- (a) any exploration activity involving possible exposure to radiation;
- (b) removal of uranium or thorium from a site for testing or evaluation (unless exempted);
- (c) excavation activities at a site, including a test mine, for evaluation or delineation of the ore body;
- (d) siting, construction or operation of a mine or processing facility;
- (e) transport of the product of mining or milling activities;
- (f) decommissioning or closure of a mine or processing facility;
- (g) radioactive waste management.

(2) Requirements established for the activities listed in paragraph (1) shall comply with any safety standards and requirements.

(3) The Authority shall establish a system of monitoring and inspection to verify compliance with any applicable regulations and any authorizations granted under this paragraph.

Information
required on
application to
conduct
mining, etc.

2. Applicants for an authorization to conduct mining or processing activities involving uranium or thorium ore from a site shall provide information on the following, as appropriate—

- (a) mining leases;
- (b) site characteristics, including geology and mineralogy;
- (c) siting or construction plans;

- (d) conceptual design of the mining or processing facility;
- (e) proposed work activities, extraction techniques and types of equipment involved;
- (f) quantities of uranium or thorium to be removed with the ore;
- (g) transport of the ore;
- (h) estimates of exposures and doses to workers;
- (i) measures to be taken for radiation protection;
- (j) procedures for accident prevention;
- (k) plans for effluent management systems and procedures;
- (l) procedures for dealing with accidental releases of radioactive or nonradioactive contaminants into the environment, including mitigation of hazards;
- (m) impacts on public health and safety and the environment;
- (n) siting of tailings and storage facilities or stockpiles of ore and waste rock;
- (o) proposed decommissioning plans, including financial arrangements for decommissioning;
- (p) security measures.

3.—(1) The authorization holder bears primary responsibility for ensuring the safety and security of any mining and processing activities conducted under the relevant authorization.

Responsibility
of the
authorization
holder.

(2) The authorization holder shall ensure compliance with all relevant regulations and requirements of the authorization issued by the Authority.

(3) The authorization holder shall notify the Authority of its intention to introduce modifications to any activity or practice it may conduct, whenever the modifications could have significant implications on its safety or security, and shall not implement those modifications unless authorized by the Authority.

(4) The authorization holder shall provide information required by the Authority and the access necessary to verify compliance with applicable regulations and authorization conditions.

(5) The authorization holder shall maintain the records as required by the Authority and shall make them available for inspection as required.

4. The authorization holder shall have the primary responsibility for ensuring the safety and security of radioactive waste and nuclear material during its transportation.

Responsibility
for transport
of radioactive
material, etc.

EIGHTH SCHEDULE (Sections 132 and 138)

PART A

Penalties

<i>Offences</i>		<i>Penalties</i>
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<i>Section</i>	<i>Offence</i>	<i>Penalty</i>
15(4)	Unlawfully communicating or attempting to communicate information contained in record or document	On summary conviction in a Resident Magistrate's Court, to a fine not exceeding one hundred thousand dollars and in default of payment thereof to imprisonment for a term not exceeding three months or to both such fine and imprisonment.
18(3)	Operating ionizing radiation apparatus without authorization	On summary conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three months or to both such fine and imprisonment.
19(3)	Possessing radiation source without authorization	On summary conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.

Penalties

<i>Offences</i>		<i>Penalties</i>
<i>First Column</i>		<i>Second Column</i>
<i>Section</i>	<i>Offence</i>	<i>Penalty</i>
20(3)	Failure to register ionizing radiation apparatus	On summary conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.
21	Causing, etc. ionizing radiation apparatus to be operated without authorization	On summary conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.
22(2)	Transporting or causing radioactive material or nuclear material to be transported otherwise than pursuant to authorization	On summary conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.
23(2)	Importing radioactive waste	On summary conviction in a Resident Magistrate's Court, to a fine not exceeding four million

Penalties

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<i>Section</i>	<i>Offence</i>	<i>Penalty</i>
		dollars or to imprisonment for a term not exceeding four years or to both such fine and imprisonment.
		On indictment to a fine or to imprisonment for a term not exceeding ten years or to both such fine and imprisonment.
24(2)	Building, importing, exporting or operating research reactor except in accordance with authorization	On summary conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.
25(3)	Engaging, etc. in any activity or practice related to the acquisition or development of nuclear explosives, etc.	On summary conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding five years or to both such fine and imprisonment. On indictment to a fine or to imprisonment for a term not exceeding twenty years or to both such fine and imprisonment.

Penalties

<i>Offences</i>		<i>Penalties</i>
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<i>Section</i>	<i>Offence</i>	<i>Penalty</i>
26(2)	Developing, etc. radioactive material or nuclear material for producing weapon	<p>On summary conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding five years or to both such fine and imprisonment.</p> <p>On indictment to a fine or to imprisonment for a term not exceeding twenty-five years or to both such fine and imprisonment.</p>
27(3)	Constructing or operating certain nuclear installations	<p>On summary conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding five years or to both such fine and imprisonment.</p> <p>On indictment to a fine or to imprisonment for a term not exceeding twenty years or to both such fine and imprisonment.</p>
28(3)	Carrying out developmental testing operations without authorization.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of

Penalties

<i>Offences</i>		<i>Penalties</i>
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		payment thereof to imprisonment for a term not exceeding one year.
29(3)	Carrying out operations for or in relation to mining or mineral processing where radioactive material or nuclear material is present without authorization.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding three years.
30	Using or handling radioactive material, etc. without authorization.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding three years.
31(1)	Causing, radioactive material or nuclear material to be kept or handled in any premises by person.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one hundred thousand dollars and in default of payment thereof to imprisonment for a term not exceeding three months.
32(3)	Causing, radioactive material or nuclear material to be kept or handled in any premises without consent.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million

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		dollars and in default of payment thereof to imprisonment for a term not exceeding three months.
33(1)	Preparing site, etc. without authorization.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.
34	Failure to register sealed radioactive source.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding three years.
35(3)	Contravening direction relating to security enhanced radioactive source, etc.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding three years.
36(2)	Abandoning radiation source.	1. On conviction in a Resident Magistrate's Court, to a fine not

*Penalties**Offences**Penalties**First Column**Second Column**Section**Offence**Penalty*

		exceeding one hundred thousand dollars and in default of payment thereof to imprisonment for a term not exceeding three months.
		2. On indictment to a fine or to imprisonment for a term not exceeding ten years or to both such fine and imprisonment.
37(2)	Disposing of radioactive material or nuclear material except in accordance with authorization.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one hundred thousand dollars and in default of payment thereof to imprisonment for a term not exceeding three months.
37(4)	Disposing of ionizing radiation apparatus unless the ionizing radiation apparatus has been rendered permanently inoperable and the disposal is carried out in a safe manner and in accordance with the regulations or any guideline by the Authority.	1. On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars and in default of payment thereof to imprisonment for a term not exceeding three years.

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		2. On indictment to a fine or to imprisonment for a term not exceeding ten years or to both such fine and imprisonment.
54(2)	Failure to ensure radiation worker is not exposed to ionizing radiation that exceeds the prescribed dose limits for radiation workers.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars and in default of payment thereof to imprisonment for a term not exceeding three years.
54(4)	Failure to ensure that each person under the age of eighteen years is not exposed to ionizing radiation in the course of the person's employment.	On conviction in a Resident Magistrate's Court, to a fine not exceeding four million dollars and in default of payment thereof to imprisonment for a term not exceeding four years.
55(2)	Breach of duty to inform radiation workers of hazards, etc.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.

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56(2)	Employer's failure to comply with directions relating to radiation management plan.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.
56(4)	Employer's breach of duty relating to radiation management plan.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.
57(3)	Employer's failure to provide radiation worker with approved personal monitoring devices.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.
57(5)	Radiation worker's failure to wear approved monitoring device in the course of employment.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.

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<i>Offences</i>		<i>Penalties</i>
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58(2)	Employer's failure to keep a record of personal monitoring device issued to radiation workers.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one hundred thousand dollars and in default of payment thereof to imprisonment for a term not exceeding three months.
58(5)	Employer's failure to provide radiation exposure records employee who leaves the employer's employment.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.
59	Employer's failure to comply with direction regarding monitoring devices.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars and in default of payment thereof to imprisonment for a term not exceeding three years.
60	Employer's failure to maintain etc monitoring devices.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.

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61(2)	Exposing any other person to ionizing radiation for a scientific or research purposes except in accordance with the regulations.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars and in default of payment thereof to imprisonment for a term not exceeding three year.
62(2)	Disposing of radioactive material, nuclear material or ionizing radiation apparatus without maintaining a record.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.
64(2)	Failure to report apparent radiation accidents.	<ol style="list-style-type: none"> 1. On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars and in default of payment thereof to imprisonment for a term not exceeding three years. 2. On indictment to a fine or to imprisonment for a term not exceeding ten years or to both such fine and imprisonment.

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65(2)	Failure to record radiation accident.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.
66(2)	Failure to inform persons exposed to radiation of defects in ionizing radiation apparatus.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars and in default of payment thereof to imprisonment for a term not exceeding three years.
67(2)	Failure to protect public from exposure to radiation.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.
69(2)	Loss or theft of radioactive material.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years.

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70(2)	Loss or theft of security enhanced radioactive source.	<ol style="list-style-type: none"> 1. On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars and in default of payment thereof to imprisonment for a term not exceeding three years. 2. On indictment to a fine or to imprisonment for a term not exceeding ten years or to both such fine and imprisonment.
71	Failure to display warning signs.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years.
72(6)	Unlawfully destruction or disposal of records.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.

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77(2)	Contravening written direction given by the Authority.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.
121(1)	Communicating information prejudicing security of nuclear material, etc.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.
122(1)(a)	Unlawfully developing, etc. radioactive material or nuclear material and devices with intent to cause death, etc.	On indictment to imprisonment for a term not exceeding twenty-five years.
122(1)(b)	Unlawfully developing, etc. radioactive material or nuclear material and devices with intent to cause substantial damage to property, etc.	On conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding fifteen years or to both such fine and imprisonment.

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		On indictment to imprisonment for a term not exceeding fifteen years or to both such fine and imprisonment.
122(1)(c)	Unlawfully developing, etc. radioactive material or nuclear material and devices which causes death, etc.	On indictment to imprisonment for a term not exceeding twenty-five years.
122(1)(d)	Unlawfully developing, etc. radioactive material or nuclear material and devices which causes substantial damage to property, etc.	On conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding five years or to both such fine and imprisonment.
		On indictment to imprisonment for a term not exceeding fifteen years or to both such fine and imprisonment.
122(2)	Stealing or robbing, etc. radioactive material or nuclear material.	On conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding five years or to both such fine and imprisonment.

Penalties

<i>Offences</i>		<i>Penalties</i>
<i>First Column</i>		<i>Second Column</i>
<i>Section</i>	<i>Offence</i>	<i>Penalty</i>
		On indictment to imprisonment for a term not exceeding fifteen years or to both such fine and imprisonment.
122(2)	Threatening to commit offence in order to compel any person, international organization, etc.	On conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding fifteen years.
		On indictment to a fine or to imprisonment for a term not exceeding fifteen years.
122(4)	Demanding radioactive material, etc. by threat.	On conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding five years.
		On indictment to a fine or to imprisonment for a term not exceeding fifteen years.
123(1)(a)	Unlawfully developing, etc. radioactive material or nuclear material and devices with intent to cause death, etc.	On indictment to imprisonment for a term not exceeding twenty-five years.

Penalties

<i>Offences</i>		<i>Penalties</i>
<i>First Column</i>		<i>Second Column</i>
<i>Section</i>	<i>Offence</i>	<i>Penalty</i>
123(1)(b)	Unlawfully developing, etc. radioactive material or nuclear material and devices with intent to cause substantial damage to property, etc.	<p>On conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding fifteen years or to both such fine and imprisonment.</p> <p>On indictment to imprisonment for a term not exceeding fifteen years or to both such fine and imprisonment.</p>
123(1)(c)	Unlawfully developing, etc. radioactive material or nuclear material and devices to compel any person, international organization, etc.	On indictment to imprisonment for a term not exceeding twenty-five years.
123(1)(d)	Unlawfully developing, etc. radioactive material or nuclear material and devices which causes death, etc.	<p>On conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars or to imprisonment for a term not exceeding five years or to both such fine and imprisonment.</p> <p>On indictment to imprisonment for a term not exceeding fifteen years or to both such fine and imprisonment.</p>

Penalties

<i>Offences</i>		<i>Penalties</i>
<i>First Column</i>		<i>Second Column</i>
<i>Section</i>	<i>Offence</i>	<i>Penalty</i>
126	Falsification of document or information.	On conviction in a Resident Magistrate's Court, to a fine not exceeding five million dollars and in default of payment thereof to imprisonment for a term not exceeding five years.
127	Tampering with radiation sources sealed by authorized officer.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment for a term not exceeding three years or to both such fine and imprisonment.
128	Obstructing, authorized officer, etc.	On conviction in a Resident Magistrate's Court, to a fine not exceeding one million dollars and in default of payment thereof to imprisonment for a term not exceeding one year.
129	Bribing authorized officer.	On conviction in a Resident Magistrate's Court, to a fine not exceeding three million dollars or to imprisonment

*Penalties**Offences**Penalties**First Column**Second Column**Section**Offence**Penalty*

130

False or misleading
information in
application, etc.for a term not exceeding
three years or to both such
fine and imprisonment.On conviction in a
Resident Magistrate's
Court, to a fine not
exceeding three million
dollars or to imprisonment
for a term not exceeding
three years or to both such
fine and imprisonment.

131

Accepting bribes.

On conviction in a
Resident Magistrate's
Court, to a fine not
exceeding three million
dollars or to imprisonment
for a term not exceeding
three years or to both such
fine and imprisonment.

PART B

*Offences in respect of which liability to conviction
may be discharged by payment of a fixed penalty*

Sections	Nature of Offence	Penalty
54(2)	Failure to ensure radiation worker is not exposed to ionizing radiation that exceeds the prescribed dose limits for radiation workers.	\$500,000.00
54(4)	Failure to ensure that person under the age of eighteen years is not exposed to ionizing radiation in the course of the person's employment.	\$500,000.00
55(2)	Breach of duty to inform radiation workers of hazards, etc.	\$350,000.00
56(2)	Employer's failure to comply with directions relating to radiation management plan.	\$350,000.00
56(4)	Employer's breach of duty relating to radiation management plan.	\$100,000.00
57(3)	Employer's failure to provide radiation worker with approved personal monitoring devices.	\$100,000.00
57(5)	Radiation worker's failure to wear approved monitoring device in the course of employment.	\$100,000.00
58(2)	Employer's failure to keep a record of personal monitoring device issued to radiation workers.	\$100,000.00
68(3)	Failure to appoint radiation safety officer or radiation safety committee.	\$100,000.00
71	Failure to display warning sign.	\$100,000.00

Passed in the House of Representatives this 7th day of July, 2015 with six (6) amendments.

MICHAEL A. PEART
Speaker.

Passed in the Senate this 17th day of July 2015 with five (5) amendments.

FLOYD E. MORRIS

President.

MEMORANDUM OF OBJECTS AND REASONS

Exposure to high levels of radiation can lead to clinical damage to the tissues of the human body, and has the potential for delayed induction of malignancies and, in some cases, damage to the environment.

The Government, therefore, considers it essential that all activities relating to radioactive material, nuclear material and ionizing radiation apparatus, be made subject to standards of safety and security.

This Bill, therefore, seeks to make provision for the establishment of a body to be known as the Hazardous Substances Regulatory Authority which will, among other things, regulate and monitor activities, practices and facilities involved in nuclear technology and ionizing radiation, grant authorizations and establish compulsory operational standards with which all radiation facilities must comply.

The Authority will have powers to inspect premises and equipment in order to ensure that Government's standards, are met and maintained and ensure that corrective action is taken if unsafe or potentially unsafe conditions are detected at any location where authorized activities are conducted.

ANTHONY HYLTON,
Minister of Industry, Investments and Commerce.

ABILL

ENTITLED

AN ACT to to Make new provision for the regulation of activities, practices, apparatuses and facilities involving ionizing radiation and nuclear technology for the protection of people, property and the environment from the harmful effects of ionizing radiation; and for connected matters.

As passed in the Honourable House of Representatives.

As passed in the Honourable Senate.

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