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NUCLEAR REGULATORY AUTHORITY ACT, 2014

AN ACT to establish a Nuclear Regulatory Authority; to provide for the regulation and management of activities and practices for the peaceful use of nuclear material or energy, radioactive material or radiation; to provide for the protection of persons and the environment against the harmful effects of radiation hazards; to ensure the effective implementation of the country's international obligations and for related matters.

PASSED by Parliament and assented to by the President:

Application

Application

1. (1) This Act applies to the
 - (a) regulation and management of activities and practices for the peaceful use of nuclear energy and radiation under the jurisdiction and control of the country, including the production, possession, use, import, export, transportation, transfer, handling and management of radioactive material, decommissioning or other related activity or practice identified by the Authority;

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- (b) management of radioactive waste resulting from civilian applications in the country; and
- (c) management of spent fuel resulting from the operation of civilian nuclear reactors in the country.

(2) This Act does not apply to any exposure, the magnitude of which is not amenable to control through the requirements and standards determined by the Authority.

Act to bind the Republic

2. This Act binds the Republic.

The Nuclear Regulatory Authority

Establishment of the Authority

3. (1) There is established by this Act a body corporate to be known as the Nuclear Regulatory Authority.

(2) Where there is a hindrance to the acquisition of property by the Authority, the property may be acquired for the Authority under the State Lands Act, 1962 (Act 125) and the cost of the acquisition shall be borne by the Authority.

Objects of the Authority

4. The objects of the Authority are to

- (a) ensure that radiation and nuclear energy is used by only persons authorised under this Act, for peaceful purposes;
- (b) provide protection of persons and the environment against the harmful effects of radiation hazards; and
- (c) pursue and ensure strict compliance with this Act and the Regulations.

Functions of the Authority

5. To achieve its objects, the Authority shall

- (a) facilitate the development of national policies on the regulation and management of activities and practices with respect to
 - (i) nuclear safety and research;
 - (ii) security of nuclear and radioactive materials;
 - (iii) radiation; and
 - (iv) the implementation of safeguards specified under this Act;

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- (b)* regulate the introduction of radiation sources, nuclear materials, equipment or practices that expose workers, patients, the public and the environment to radiation;
- (c)* issue, modify, suspend or revoke authorisation, and determine conditions for authorisation;
- (d)* regulate research on radiation and nuclear safety and security, and of radioactive waste matters;
- (e)* regulate the use of radioactive materials in the exploration, exploitation and extraction of oil and gas, and the mining and milling of radioactive ores and other ores associated with radioactive and nuclear materials;
- (f)* define the detailed obligations to be placed on persons who possess radiation sources and nuclear materials, including financial conditions;
- (g)* establish and maintain a national register of radiation sources and of persons authorised to carry out any activity or practice related to a source of radiation;
- (h)* collaborate with agencies responsible for emergency to establish plans and procedures for coping with any radiological emergency and abnormal occurrence involving a nuclear material, radiation source or any other radioactive source;
- (i)* ensure that the operators provide training, information and guidance on nuclear safety, security and safeguards, and radiation protection of the public;
- (j)* educate the public on nuclear and radiation matters;
- (k)* advise the Minister on the preparation of Regulations for the effective implementation of this Act;
- (l)* establish regional and other offices as it may consider necessary for the proper performance of its functions;
- (m)* facilitate the conduct of inspections by designated inspectors of the International Atomic Energy Agency to verify design information, inspections and complementary access as provided for in the Safeguards Agreement and the Additional Protocols;
- (n)* collect, collate and provide information to the International Atomic Energy Agency in accordance with the Safeguards Agreement and any additional protocols to that Agreement;

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- (o) exchange information and co-operate with regulatory authorities of other countries and relevant international organisations on matters of nuclear safety, nuclear security and safeguards;
- (p) collaborate with the Environmental Protection Agency to identify activities and practices that may require Environmental Impact Assessment and develop environmental guidelines for those activities and practices;
- (q) ensure that the polluter pays principle is applied in the management of nuclear and radioactive waste in the country;
- (r) review nuclear safety assessment and safety analysis reports from authorised persons;
- (s) collect information, documents and views from private and public organisations or persons as may be necessary and appropriate for the discharge of its functions; and
- (t) perform other functions that may be assigned to the Authority under any other enactment.

Powers of the Authority

6. The Authority may, for purposes of section 5, exercise the following powers:

- (a) define the exposures that are excluded from the scope of application of this Act;
- (b) establish the process for removal of a facility or activity from regulatory control;
- (c) impose an administrative penalty on an authorised person including a prohibition or confiscation of the nuclear and radioactive material or equipment and its source, for non-compliance with this Act and any Regulations;
- (d) levy fees for authorisation;
- (e) collaborate with the Ministries responsible for National Security and the Interior in determining what constitutes a domestic threat for the variety of nuclear and radioactive materials used within the country and assess the Republic's vulnerability to each threat;

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- (f) establish in collaboration with the Ghana Immigration Service and the Customs Division of the Ghana Revenue Authority, a control system for the import and export of nuclear material, radioactive sources and other controlled items;
- (g) establish and maintain a national system for registering, authorisation, and accounting for nuclear materials and radiation sources;
- (h) establish appropriate mechanisms for stakeholder participation in the regulatory process;
- (i) define radiation exposures that are excluded from the scope of application of this Act on the basis of their being unamenable to regulatory control;
- (j) set conditions for issuing authorisation and issue, amend, suspend or revoke an authorisation;
- (k) grant exemptions concerning the possession and use of radiation sources, and the safe management of radioactive materials;
- (l) conduct inspections to assess compliance with safeguard conditions and radiation safety and security conditions, imposed by the Authority on an authorised person;
- (m) establish a system for tracking inventories and movement of nuclear material; and
- (n) establish procedures for reporting to the International Atomic Energy Agency in accordance with section 56.

Governing body of the Authority

7. (1) The governing body of the Authority is a Board consisting of
- (a) the chairperson,
 - (b) the Director-General,
 - (c) one representative of the Environmental Protection Agency not below the rank of a director,
 - (d) one representative of the National Security Council not below the rank of a director, and
 - (e) three other members with cognate background and experience in nuclear and allied sciences at least one of whom is a woman.

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(2) Members of the Board shall be appointed by the President in accordance with article 70 of the Constitution.

Tenure of office of members

8. (1) A member of the Board appointed otherwise than by reason of that member's office shall, hold office for a period not exceeding three years and is eligible for re-appointment but a member shall not be appointed for more than two consecutive terms.

(2) Despite subsection (1), the chairperson and two other members of the Board first appointed shall, hold office for a period of four years.

(3) A member of the Board who is absent from three consecutive meetings of the Board without sufficient cause ceases to be a member of the Board.

(4) The office of a member of the Board appointed otherwise than by office becomes vacant if the member at anytime resigns from office in writing addressed to the President through the chairperson of the Board.

(5) The President may by a letter addressed to a member other than the Director-General, revoke the appointment of that member.

(6) Despite subsection (5), the President may by a letter addressed to the Director-General, revoke the appointment of the Director-General if the Director-General is removed from office by virtue of section 15(4).

(7) Where a member of the Board is for sufficient reason, unable to act as a member, the Minister shall determine whether the inability would result in the declaration of a vacancy.

(8) Where there is a vacancy

(a) under subsection (3) or (4) or section 11(3),

(b) as a result of a declaration under subsection (7), or

(c) by reason of the death of a member

the Minister shall notify the President of the vacancy and the President shall appoint a person to fill the vacancy.

Functions of the Board

9. The Board shall

(a) initiate policies for the development of the Authority;

(b) ensure the proper management of the resources of the Authority; and

(c) ensure the implementation of the functions conferred on the Authority under this Act and any other enactment.

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Meetings of the Board

10. (1) The Board shall meet at least once every three months for the despatch of business at the times and places determined by the chairperson.

(2) The chairperson shall at the request in writing of not less than one-third of the membership of the Board convene an extraordinary meeting of the Board at the place and time determined by the chairperson.

(3) The quorum at a meeting of the Board is five members of the Board or a greater number determined by the Board in respect of a particular matter.

(4) The chairperson shall preside at meetings of the Board and in the absence of the chairperson, a member of the Board elected by the members present from among their number shall preside.

(5) Matters before the Board shall be decided by a majority of the members present and voting, and in the event of an equality of votes, the person presiding shall have a casting vote.

(6) The Board may co-opt a person to attend a Board meeting but that person shall not vote on a matter for decision at the meeting.

Disclosure of interest

11. (1) A member of the Board shall disclose in writing any personal interests or otherwise that the member has in the activities or practices regulated by the Authority.

(2) A member of the Board who has an interest in a matter for consideration shall

(a) disclose the nature of the interest and the disclosure shall form part of the record of the consideration of the matter; and

(b) not participate in the deliberations of the Board in respect of that matter.

(3) A member ceases to be a member of the Board, if that member has an interest in a matter before the Board and

(a) fails to disclose that interest; or

(b) participates in the deliberations of the Board in respect of that matter.

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Establishment of committees

12. (1) The Board may establish committees consisting of members of the Board or non-members or both to perform a function that the Board may determine.

(2) Without limiting subsection (1), the Board shall have a Technical Committee which may be chaired by a person who is not a member of the Board.

(3) A committee composed entirely of non-members may only advise the Board.

(4) Section 11 applies to members of committees of the Board.

Allowances

13. Members of the Board and members of a committee of the Board shall be paid the allowances approved by the Minister in consultation with the Minister responsible for Finance.

Ministerial directives

14. The Minister may, in writing, give policy directives that are consistent with the provisions of this Act to the Board and the Board shall give effect to the directives.

Administration and staff of the Authority

Appointment of Director-General

15. (1) The President shall appoint a Director-General for the Authority in accordance with article 195 of the Constitution.

(2) The Director-General shall be a person of proven integrity and shall have qualification and practical experience in nuclear law or the application of nuclear energy, radiation, nuclear safety and security, safeguards and radiation protection.

(3) The Director-General shall hold office in accordance with the terms and conditions specified in the letter of appointment.

(4) The Director-General shall be removed from office for incapacity, malfeasance or incompetence.

Functions of the Director-General

16. (1) The Director-General is responsible for the day to day administration of the affairs of the Authority and is answerable to the Board in the performance of functions under this Act.

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(2) The Director-General shall perform other functions determined by the Board.

Deputy Director-General

17. (1) The President shall in accordance with article 195 of the Constitution appoint a Deputy Director-General for the Authority.

(2) The Deputy Director-General shall hold office in accordance with the terms and conditions specified in the letter of appointment.

(3) The Deputy Director-General shall assist the Director-General in the administration of the Authority.

Appointment of other staff

18. (1) The President shall in accordance with article 195 of the Constitution appoint other staff of the Authority that are necessary for the proper and effective performance of its functions.

(2) Other public officers may be transferred or seconded to the Authority or may otherwise be requested to give assistance to the Authority.

(3) The Board shall vet and interview persons to be transferred or seconded to the Authority.

(4) A person seconded or transferred to the Authority shall declare in writing any personal interest in an activity or a practice involving nuclear or radioactive materials.

(5) The Authority may engage the services of such experts and consultants as it considers necessary on the recommendations of the Director-General.

(6) Civil proceedings may not be brought against any member or other person acting on behalf or under the direction of the Authority for anything done, reported or said in good faith in the course of the performance of a function, exercise of a power or discharge of a duty, or purported performance of a function, exercise of a power or discharge of a duty of the Authority under this Act or for an alleged neglect or default in the performance of that function, exercise of that power or discharge of that duty.

(7) Nothing in this section relieves the Authority of liability in respect of a tort or contract.

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Secretary to the Board

19. (1) The Board shall designate the Director of Legal Services as Secretary to the Board.

(2) The Secretary shall perform functions as directed by the Board.

Directorates and structure of the Authority

20. (1) The Board shall establish directorates necessary for the operation of the Authority.

(2) A directorate established pursuant to subsection (1) shall be headed by a Director.

Regulatory activities of the Authority

Application for authorisation

21. (1) A person shall not engage in an activity or a practice which involves the use of nuclear material, radioactive material or any radiation, unless that person is authorised by the Authority.

(2) Subject to this Act, a person who intends to engage in any activity or practice involving

- (a) nuclear material or radioactive material,
- (b) nuclear waste or radioactive waste, or
- (c) radiation

shall apply to the Authority in writing for authorisation.

Obtaining information

22. (1) The Director-General, an employee or any other person authorised by the Director-General shall have access to the relevant records, books or facilities of the person requested to provide the information.

(2) The applicant shall make available any information considered necessary by the Authority.

Obligations of authorised person

23. (1) A person authorised to conduct an activity or a practice

- (a) shall not transfer a right or an obligation under the authorisation to another person;
- (b) is responsible for the safe and secure conduct of the activity or practice in compliance with this Act;
- (c) shall ensure that appropriate measures are taken to handle and finally dispose of radioactive waste arising from the authorised activity or practice in a safe manner;

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- (d) shall ensure that appropriate measures are put in place for the decommissioning and dismantling of facilities in which the authorised activity or practice is conducted;
- (e) shall ensure that persons employed for purposes of the authorised activity or practice and the public are protected from radiological injury;
- (f) shall ensure compliance with requirements and dose limits established by the Authority,
- (g) shall ensure that radiation doses to the public, the number of persons exposed and persons employed for purposes of the activity or practice, including doses released into the environment, are within reasonably acceptable and authorised limits taking into consideration social and economic factors;
- (h) shall before the cessation of the authorised activity or practice, inform the Authority of its decision to cease the activity or practice;
- (i) shall maintain records required by the Authority and make them available for inspection as required; and
- (j) shall provide
 - (i) information to the Authority as required by the Authority; and
 - (ii) the Authority access to its premises for purposes of verifying compliance with applicable Regulations and authorisation conditions.

(2) An authorised person who contravenes subsection (1) commits an offence is liable on summary conviction to a fine of not less than seven hundred and fifty penalty units and not more than two thousand five hundred penalty units or to a term of imprisonment of not less than three years and not more than five years or to both the fine and imprisonment.

Radiation protection

24. (1) The Authority shall adopt requirements for protection of persons from harmful effects arising from exposure to radiation.

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(2) The Authority shall, by Regulations, guidelines and standards prescribe measures aimed at preventing exposure of humans to radiation.

Medical practices

25. (1) A person shall not apply a medical diagnosis or therapy which utilises nuclear material, radioactive material or any radiation on another person, unless the person possesses the qualification prescribed by the Authority and is authorised.

(2) A person who contravenes subsection (1) commits an offence and is liable on summary conviction to a fine of not less than one thousand penalty units and not more than two hundred and fifty thousand penalty units or to a term of imprisonment of not less than four years and not more than five years or to both the fine and imprisonment.

Protection of patients

26. A person authorised to apply a medical procedure shall ensure that the patient is not administered with a diagnostic or therapeutic exposure, unless the exposure is prescribed by an authorised medical officer who is assigned to the patient for purposes of delivering that medical therapy.

National register of radiation sources

27. (1) The Authority shall establish and maintain a national register of radiation sources.

(2) The categorisation of radiation sources in the national register shall take account of their potential to cause injury to persons, society and the environment.

(3) The Authority shall adopt measures to protect information contained in the national register to ensure that the safety and security of a registered radiation source is not compromised.

National register of export, import, trans-shipment and transport of radioactive sources

28. (1) The Authority shall determine and publish in the *Gazette* any radioactive or nuclear material, equipment or technology that is subject to control as a national policy and in the interest of the security of the country.

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(2) A person shall not export, import, trans-ship or transport a controlled item without authorisation from the Authority.

(3) A person who intends to export, import, trans-ship or transport a controlled item shall apply to the Authority in writing, for authorisation.

Export and import of controlled items

29. The Authority shall

- (a) before authorising an applicant to export an item which is subject to control by the Authority, consider the following:
 - (i) that the receiving State has made a binding commitment to use the item being exported and information in respect of that item for a peaceful purpose only;
 - (ii) any International Atomic Energy Agency safeguards requirement applicable to the item to be exported;
 - (iii) whether the receiving State has placed its nuclear material and nuclear facilities under International Atomic Energy Agency safeguards;
 - (iv) whether approval of the Authority has been given for the transfer to a third State, of an item or technology previously transferred into the country;
 - (v) whether the requirements in the Convention on the Physical Protection of Nuclear Material for the transport of the material to be exported has been met; and
 - (vi) any information provided by the applicant in respect of the end use and end user of the nuclear material, equipment or information to be transferred that confirms the legitimate peaceful use of the nuclear material, equipment or information; and
- (b) before authorising an applicant to import an item which is subject to control by the Authority, consider the following:
 - (i) whether the material, equipment or technology to be imported is not prohibited by any law or regulatory provision in the country;

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- (ii) whether the designated recipient of the imported item is subject to an authorisation requirement under another enactment and the authorisation has been granted; and
- (iii) whether the end user of the imported item has the technical and administrative capability and resources to use the imported item in a safe and secured manner.

Recovery of orphan sources

30. (1) An authorised person who has lost control of a radioactive source shall, promptly report the loss or any other incident that could pose a significant risk to the safety or security of persons and the environment, to the Authority.

(2) The Authority shall collaborate with the Ministry responsible for National Security and agencies responsible for emergency, to develop a national strategy for the prompt recovery and control over an orphan source in respect of which control is lost.

(3) The Authority shall manage any orphan source to ensure its security and safety.

Emergency preparedness plans

31. (1) A person shall not be authorised unless that person has in place an appropriate emergency preparedness and response plan approved by the Authority for the

- (a) operation of that person's facility or a source the person possesses or uses; and
- (b) activity or practice for which the authorisation is sought.

(2) The plan shall consist of both on-site and off-site emergency plans.

(3) An applicant shall in preparing an emergency plan, take into account

- (a) an assessment of the nature, likelihood and potential magnitude of resulting damage, including the population and area potentially at risk from an accident, malicious act or incident;

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- (b)* the results of any accident analysis and lessons learned from that accident or incidents that have occurred in connection with similar activities or practices.
- (4) An emergency plan shall
 - (a)* identify the conditions that could create a need for emergency intervention;
 - (b)* require the applicant to immediately notify the Authority and other government agencies determined by the Authority, of any situation or incident that poses a risk of radiological injury and requires emergency intervention;
 - (c)* allocate responsibilities for
 - (i)* initiating intervention; and
 - (ii)* notifying relevant emergency intervention and response organisations;
 - (d)* specify procedures, including communication arrangements, for contacting and obtaining assistance from emergency intervention organisations;
 - (e)* specify intervention levels for protective actions and the scope of their application, taking into account the possible severity of emergencies that could occur;
 - (f)* describe the methods and instruments necessary for assessing an emergency situation and its consequences;
 - (g)* specify the procedure for terminating each emergency response or action;
 - (h)* specify the training required of emergency responders and for conducting appropriate practice exercises to test the adequacy of the plan and to ensure that persons who may be involved in the emergency interventions are adequately informed and prepared for possible emergencies;
 - (i)* ensure persons likely to be affected by an emergency are well educated and informed about the potential risks of that emergency; and
 - (j)* be prepared in consultation with relevant emergency intervention or emergency responders, including the traditional authority, the local authority, and district, regional and national administrative authorities.

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(5) An emergency plan shall be reviewed annually and updated.

(6) In the event of a nuclear or radiological emergency, the authorised person shall implement the emergency plan as approved by the Authority.

National plan for nuclear or radiological emergencies

32. (1) The Authority shall in collaboration with agencies responsible for emergency and disaster management develop and maintain a national emergency plan for responding to potential nuclear or radiological emergencies.

(2) The Minister responsible for National Security shall approve the plan.

(3) The national emergency plan for nuclear or radiological emergencies shall take into account other national emergency response plans or programmes.

(4) The national emergency plan for nuclear or radiological emergencies shall detail an allocation of responsibilities and actions among relevant governmental and non-governmental bodies, including arrangements for communications and public information.

(5) The Authority shall in collaboration with agencies responsible for emergency review and update the plan every two years.

(6) The updated plan shall be approved in accordance with subsection (2).

Trans-boundary emergencies

33. (1) In the event of a nuclear or radiological emergency that poses a risk of radioactive contamination spreading beyond the boundaries of Ghana, the Authority shall immediately notify the International Atomic Energy Agency and the relevant authorities of any State that could be affected by the release.

(2) The Authority shall, in collaboration with the organisations responsible for disaster management, serve as the point of contact for providing any information or assistance regarding nuclear or radiological emergencies under the terms of relevant international instruments, including the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

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Regulating nuclear installations

Construction and operation of nuclear installations

34. (1) A person shall not construct or operate a nuclear installation and conduct a related activity unless the person is authorised by the Authority.

(2) A person who intends to undertake maintenance, expansion, or an alteration or any activity related to the site or structure of an authorised facility shall notify the Authority and obtain authorisation before the commencement of the activity.

Responsibility of the operator

35. An operator is responsible for ensuring the safe and secure conduct of any activity or practice associated with that operator's facility.

National site evaluation process for nuclear installations

36. (1) The Authority shall establish a process consistent with procedures contained in the national nuclear development plan for the evaluation of proposed sites for nuclear installations in the country.

(2) The Authority shall approve the proposed location for the development of a nuclear installation and associated facilities before the detailed evaluation of that site and preconstruction review and assessment of the proposed facility are commenced.

(3) The process for site evaluation shall include an assessment of the following:

- (a) the effects of external events occurring in the region, either of natural origin or human induced;
- (b) the characteristics of the site and its environment that could influence the transfer to persons and the environment of radioactive material that has been released; and
- (c) the population density and population distribution and other characteristics of the exclusion zone in so far as they may affect the possibility of implementing emergency measures and the need to evaluate the risks to individuals and the population.

Site evaluation for nuclear installations

37. An applicant for authorisation to construct and operate a nuclear installation shall, prepare a site evaluation report for assessment and review by the Authority, and the report shall include,

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- (a) the frequency and severity of external natural and human induced events and the phenomena that could affect the safety of the facility;
- (b) the foreseeable evolution of natural and man-made factors in the proposed area that may have a bearing on safety during the projected life span of the facility;
- (c) the hazards associated with external events that are to be considered in the design of the facility, including the potential combined effects of these hazards with ambient conditions including hydrological, hydro-geological and meteorological conditions;
- (d) additional matters relating to safety, including the storage and transport of nuclear and other radioactive materials, fresh and spent fuel and radioactive waste;
- (e) the possible non-radiological impact of the facility due to chemical or thermal releases, and the potential for explosion and the dispersion of chemical products;
- (f) the potential for interactions between nuclear and non-nuclear effluents;
- (g) the potential radiological impact in operational state and its conditions on persons within the area, including impacts outside of Ghana; and
- (h) in so far as possible, the total nuclear capacity to be installed on the site, with provision for re-evaluation of the site if the installed capacity is to be significantly increased beyond the level assessed in a previous site evaluation.

Preconstruction review and assessment of nuclear installations

38. The Authority shall before authorising the construction of a nuclear installation review and assess

- (a) the competence and capability of the applicant to meet relevant permit or authorisation requirements;
- (b) the site evaluation report prepared under section 37 to confirm its acceptability and related information needed for the design of the proposed facility;
- (c) the potential environmental impact of the proposed facility;

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- (d) the basic design of the proposed facility, to confirm that it can meet relevant safety, security and physical protection requirements;
- (e) the quality assurance organisation and programme of the applicant or operator and vendors;
- (f) research results and development plans related to demonstration of the acceptability of the design; and
- (g) arrangements for the management of radioactive waste and decommissioning.

Construction review and assessment of nuclear installations

39. The Authority shall review and assess the following during the construction of a nuclear installation:

- (a) the development of the facility design through documentation submitted by the operator to determine its continued acceptability; and
- (b) the progress of research and development activities in connection with demonstrating the acceptability of the design.

Pre-commissioning review and assessment before commissioning a nuclear installation

40. The Authority shall before commissioning a nuclear installation, review and assess the

- (a) commissioning programme of the nuclear installation and if necessary establish a schedule for further review and assessment;
- (b) as-built design of the installation;
- (c) limits and conditions for radiation protection;
- (d) measures put in place for radiation protection;
- (e) adequacy of operating instructions and procedures, especially the main administrative procedures, general operating procedures and emergency operating procedures;
- (f) recording and reporting systems;
- (g) arrangements for training and qualification of personnel for the installation, including staffing levels and fitness for duty requirements;
- (h) quality assurance organisation and programme for operation;
- (i) emergency preparedness programme;

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- (j) accounting measures for nuclear and radioactive materials; and
- (k) adequacy of physical protection measures.

Review and assessment before commissioning of a nuclear power installation

41. The Authority shall before authorising the loading of nuclear fuel or initial criticality, complete the review and assessment of the following:

- (a) the results of non-nuclear commissioning tests;
- (b) arrangements for periodic testing, maintenance, inspection, and control of modifications and surveillance.

Review and assessment during operation of nuclear installations

42. The Authority may during the operation of a nuclear installation,

- (a) review, assess and approve any changes in operational limits and conditions or significant safety-related modifications; and
- (b) make periodic reviews of the operator's compliance with relevant terms and conditions related to the safety and security of the installation.

Regulating radioactive waste management

Operating a radioactive waste management facility

43. (1) A person or entity shall not operate a radioactive waste management facility, unless the person or entity is authorised by the Authority.

(2) An application for authorisation to operate a radioactive waste management facility shall be submitted to the Authority together with a plan for the discontinuation of the operation of the facility.

(3) The plan shall provide the mechanism for the disposal of radioactive waste.

(4) The Authority shall approve the plan before granting authorisation for the operation of the facility.

Radioactive waste management

44. A person authorised to manage radioactive waste under this Act shall, in managing the waste, ensure that

- (a) the public and the environment are adequately protected against radiological and other hazards;

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- (b) the generation of radioactive waste is kept at a minimum;
- (c) relationships at the different levels in radioactive waste and spent fuel management are taken into account at all times;
- (d) protective measures for radioactive waste management in the country are implemented in a manner that reflects internationally recognised criteria, standards and guidance and in particular those adopted by the International Atomic Energy Agency;
- (e) biological, chemical and other hazards that may be associated with radioactive waste management are adequately addressed;
- (f) criticality and removal of residual heat generated during radioactive waste and spent fuel management are adequately addressed;
- (g) activities that may impose reasonably predictable impacts on future generations greater than those permitted for the current generation are avoided;
- (h) undue burdens on future generations are avoided; and
- (i) appropriate funding arrangements are in place.

Responsibility for safety and security of radioactive waste

45. A person authorised to manage a radioactive waste management facility shall ensure the safety and security of the facility throughout its operational life.

Safe and secure management of radioactive waste

46. To ensure the safe and secure management of radioactive waste in the country, the Minister shall, on the advice of the Authority, by legislative instrument, make Regulations

- (a) to establish the safety and security requirements;
- (b) for the protection of the public and the environment from adverse impacts of radioactive waste management activities;
- (c) to establish a system of institutional control for disposal, including regulatory inspection, documentation of inspection and reports on the inspection of radioactive waste management activities; and
- (d) to establish a system of enforcement to ensure compliance with applicable Regulations and the terms and conditions of each authorisation for radioactive waste management activities.

Prohibition of import of radioactive waste

47. Radioactive waste generated in another country shall not be imported into the country for any purpose.

Authorisation for the export of radioactive waste

48. (1) Radioactive waste generated within the country may be exported by an authorised person after the Authority has granted authorisation for the export.

(2) The Authority shall not permit radioactive waste to be exported for storage or disposal to a destination beyond latitude 60 degrees south.

Criteria for export of radioactive waste

49. The Authority shall not authorise a person to export radioactive waste, unless the person satisfies the following conditions:

- (a) that the applicant has established procedures that ensure that the importing country will be notified of the transfer of radioactive waste or spent fuel prior to its receipt and has consented to the transfer;
- (b) movement of the exported material will be conducted in conformity with relevant international obligations in any country through which the material will transit; and
- (c) the importing country possesses the administrative and technical capacity as well as the regulatory structure needed to manage the exported radioactive waste or spent fuel in a manner that ensures its safety and security, consistent with relevant internationally recognised standards, and in particular those promulgated by the International Atomic Energy Agency.

Re-import of radioactive waste

50. (1) Where an authorised export of radioactive waste cannot be completed in conformity with this Act, the radioactive waste shall not be re-imported into the country, unless the authorised person has provided an alternative safe and secure arrangement approved by the Authority.

(2) A person who contravenes subsection (1) commits an offence and is liable on summary conviction to a fine of not more than two thousand five hundred penalty units or to imprisonment for a term of not more than five years or to both the fine and the imprisonment.

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Transportation of radioactive material

Requirements for transportation of radioactive material

51. (1) A person shall not transport radioactive material unless the person has been authorised by the Authority.

(2) The transport of radioactive material shall be carried out in accordance with this Act and Regulations.

(3) Where Regulations have not been made under section 91(2)(k), the transport of radioactive or nuclear material shall be carried out in accordance with the applicable technical requirements of the regulations for the safe transport of radioactive materials made by the International Atomic Energy Agency.

Regulating decommissioning of nuclear facilities

Decommissioning of nuclear facilities

52. (1) The Authority shall, by a notice published in the *Gazette*, specify the procedure for the decommissioning of a nuclear facility.

(2) The notice shall include

- (a) steps to be taken to resolve any safety and environmental issues and conditions of the end state of decommissioning;
- (b) limits and conditions for the removal of regulatory controls for a facility that contains radionuclides; and
- (c) criteria for the clearance of material during and after decommissioning.

(3) The Authority shall require the applicant to construct and operate a nuclear facility to perform a baseline survey of the site to develop information for comparison with the end state after decommissioning, including radiological conditions before the construction.

(4) The Authority shall ensure that relevant documents and records are prepared by the authorised person and maintained for a specified period of time before, during and after decommissioning.

(5) 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.

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(6) The facility shall remain under the regulatory control of the Authority until the authorised person has demonstrated that the end state in the decommissioning plan has been reached and that any other additional regulatory requirements have been met.

(7) The Minister shall on the advice of the Authority, by legislative instrument, make Regulations establishing the criteria for determining when a nuclear facility or part of a nuclear facility may be permanently shut down.

Decommissioning plan

53. (1) An applicant for authorisation to construct and operate the nuclear facility shall at the design stage of a nuclear facility, prepare a decommissioning plan for approval by the Authority.

(2) The Authority shall ensure that interested parties are provided an opportunity to review and comment upon the decommissioning plan before it is approved by the Authority.

(3) The Authority shall require the authorised person to provide periodic reviews and updates of the decommissioning plan and shall specify the maximum time intervals between the reviews and the updates.

(4) Where specific circumstances can result in significant changes in the initial decommissioning plan, the authorised person shall, at the request of the Authority, revise and update the plan to reflect these changed circumstances and submit it to the Authority for approval.

(5) The Authority shall require that a proposed final decommissioning plan be submitted for approval two years before the cessation of authorised activities, unless an alternative schedule for submitting the final decommissioning plan is specifically authorised by Authority.

(6) The Authority shall ensure that a programme to implement and monitor compliance with remaining regulatory requirements is established for sites where decommissioning has been completed, including restrictions on future use of the site.

(7) The Authority shall ensure that appropriate records are maintained to confirm the completion of the decommissioning plan.

(8) For the purposes of subsection (7), the records shall include records of the premises and the disposal of radioactive waste and material and documents that are necessary for responding to possible liability claims.

Obligations of authorised person for decommissioning

54. An authorised person shall, for purposes of the decommissioning of the facility of that authorised person

- (a) submit to the Authority a decommissioning plan which is commensurate with the type and status of the facility, and hazards that may be associated with its decommissioning;
- (b) prepare safety and environmental impact assessments necessary for the implementation of the decommissioning plan for the approval of the Environmental Protection Agency acting on the advice of the Authority;
- (c) conduct a baseline survey of the site in an effective and timely manner;
- (d) be responsible for the safety, security and protection of persons and the environment, including any activities conducted by contractors or subcontractors;
- (e) design new features or facilities and systems during the operation of the facility, that can facilitate eventual decommissioning of the facility;
- (f) submit to the Authority for approval, new or untried methods for the decommissioning of the facility;
- (g) submit a final decommissioning plan two years before a permanent cessation of operation, and inform the Authority of a decision to permanently shut down the facility two months before shutting down;
- (h) maintain the facility in a safe configuration for effective and adequate decommissioning in the future in the case of deferred dismantling;
- (i) maintain a management and human resource development system within the organisation to ensure that decommissioning can be completed safely, and that responsible persons possess the necessary skills, expertise and training relevant to safe decommissioning;
- (j) maintain an emergency planning arrangement correlative with associated hazards and to report significant incidents to the Authority; and

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- (k) arrange for adequate financing at each stage of the decommissioning process including provisions for loss of life or personal injury up to thirty years from the date of decommissioning.

Financing of decommissioning

55. (1) An applicant for authorisation to construct and operate a nuclear facility shall ensure that adequate financial resources are available when needed to cover the costs associated with a safe decommissioning, including the management of the resulting waste during the operation of the facility.

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

(3) The estimated cost shall be reviewed as part of the periodic review of the decommissioning plan.

(4) The Authority shall on the advice of the Ministry of Finance, Accountant-General's Department and Bank of Ghana establish the necessary mechanisms to enforce the obligations of an authorised person under this Act.

(5) For purposes of facilities in existence before the commencement of this Act for which financial resources are not available, proof of financial assistance shall be required before the renewal or extension of an authorisation.

Safeguards and prohibitions

Prohibitions on non-peaceful use of nuclear material

56. (1) A person shall use nuclear material exclusively for a peaceful activity and in accordance with national laws, international treaties and legal instruments.

(2) Without limiting the generality of subsection (1), a person shall not

- (a) manufacture, possess, control or acquire, directly or indirectly; or
- (b) receive any assistance directly or indirectly in the manufacture of a nuclear weapon or other nuclear explosive device in the country.

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(3) A person engaged in an activity specified in the Safeguards Agreement and any Protocols to that Agreement shall, submit to the Authority information and data required by the Authority to meet its reporting obligations under that Agreement.

(4) Each authorised person shall grant an inspector of the Authority and inspectors from the International Atomic Energy Agency, access to any premises, installation or facility in respect of which inspections are required to be conducted for the purpose of verifying activities identified under the Safeguards Agreement and its Protocols.

Regulating extraction, mining and processing of radioactive material

Processing of materials containing radioactive substances

57. (1) A person shall not conduct an extraction, mining or processing operation that involves any material that could pose a health and safety risk from exposure to ionising radiation, including

- (a) any exploration activity that involves a possible exposure to radiation;
- (b) the removal of uranium or thorium from the site for testing or valuation, unless exempted by the Authority;
- (c) excavation activities at a site, and a test mine, for evaluation or delineation of the ore body;
- (d) extraction activities that may enhance the concentration of naturally occurring radioactive material;
- (e) the siting, construction or operation of a mine or processing facility;
- (f) the transport of the product of mining or milling activities;
- (g) the decommissioning or closure of a mine or processing facility; and
- (h) radioactive waste management unless the person is authorised by the Authority.

(2) The Minerals Commission shall ensure that persons authorised under the Minerals and Mining Act, 2006 (Act 703) to engage in any of the activities listed under subsection (1) are authorised in accordance with this Act before commencing operation.

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(3) A person who contravenes this section commits an offence and is liable on summary conviction to a fine of not less than one thousand penalty units and not more than two thousand five hundred penalty units or to a term of imprisonment of not less than four years and not more than five years or to both the fine and the term of imprisonment.

Authorisation for mining of radioactive materials

58. (1) An applicant for authorisation to conduct mining or to process material that involves uranium or thorium ore from a site shall, provide information to the Authority on the following:

- (a) the mining lease;
- (b) the site characteristics, including geology and mineralogy;
- (c) the siting or construction plans;
- (d) the 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) transportation of the ore;
- (h) estimates of exposures and doses for workers;
- (i) the measures to be taken for radiation protection;
- (j) the procedures for accident prevention;
- (k) the plans for effluent management systems and procedures;
- (l) procedures for dealing with accidental releases of radioactive or non-radioactive contaminants to the environment, including mitigation of hazards;
- (m) impacts on public health and safety and the environment;
- (n) the siting of tailings and storage facilities or stockpiles of ore and waste rock;
- (o) the proposed decommissioning plans, including financial arrangements for decommissioning; and
- (p) security measures.

Responsibilities of the authorised person

59. (1) The authorised person is responsible for ensuring the safety and security of any mining and processing activity conducted pursuant to the relevant authorisation.

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(2) The authorised person shall comply with relevant Regulations and authorisation conditions imposed by the Authority.

(3) The authorised person shall notify the Authority of its intention to modify any activity or practice it is authorised to undertake, if the modifications could have significant implications for the safety and security of persons and the protection of the environment, but not implement those modifications until the notice is received and the modifications approved by the Authority.

Liability for nuclear damage

Nuclear installation

60. For purposes of section 62 to 68, the Authority may consider installations of one operator located at the same site as a single nuclear installation.

Non-discrimination

61. Section 62 to 68 applies to a person without discrimination on the basis of nationality, domicile or residence.

Liability of the operator

62. (1) Subject to this Act, the operator of a nuclear installation is liable for nuclear damage, if it is proved that the damage has been caused by a nuclear incident

- (a) at the nuclear installation of that operator; or
- (b) involving nuclear material coming from or originating from the installation of that operator.

(2) An operator who was last authorised to possess a particular nuclear material is liable for nuclear damage caused by that nuclear material if the nuclear material is stolen, lost or abandoned.

(3) Liability for nuclear damage shall apply to nuclear damage wherever suffered.

Liability during transportation

63. (1) A sending operator is liable for nuclear damage until a receiving operator has taken charge of the nuclear material being transported.

(2) A carrier is liable for nuclear damage caused by the nuclear material it is contracted to transport, if at the request of the carrier to be responsible for that liability, the sending operator and receiving operator have entered into a written agreement with the carrier to shift that liability to the carrier at the stage of transportation.

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(3) In a case where the nuclear material has been sent to a person within the territory of a State that is not party to either the Paris Convention on Third Party Liability in the Field of Nuclear Energy or Vienna Conventions on Civil Liability for Nuclear Damage, or the Convention on Supplementary Compensation for Nuclear Damage, the sending operator is liable until the nuclear material has been unloaded from the means of transport by which it is sent and delivered to the receiving operator.

(4) In a case where the nuclear material has been sent from a person within a State that is not party to either the Paris or Vienna Conventions on Nuclear Liability, or the Convention on Supplementary Compensation, the receiving operator is liable only after the nuclear material has been loaded on the means of transport by which it is to be carried from the territory of that non-contracting State.

Amount of liability

64. (1) Subject to any amendments to the Vienna Convention or the country becoming a party to the Convention on Supplementary Compensation, the minimum amount of liability of an operator of a nuclear installation is three hundred million Special Drawing Rights.

(2) Liability for nuclear damage occurring in a non-contracting State that has nuclear installation on its territory at the time of a nuclear incident, may be fixed at an amount not lower than the Cedi equivalent of seven hundred million Euros or the transitional amount of three hundred and fifty million Euros to the extent that the State does not afford reciprocal benefits of an equivalent amount.

Insuring against nuclear liability

65. (1) The operator of a nuclear installation shall maintain an insurance policy to cover the liability of the operator in the event of a nuclear damage proved to have been caused by the nuclear installation of the operator.

(2) The Authority shall in consultation with the National Insurance Commission, set the terms and conditions of an insurance policy covering liability for nuclear damage.

(3) An insurer shall not insure an operator against liability for nuclear damage, unless the operator possesses authorisation from the Authority, authorising the operator to operate the installation.

Compensation

66. (1) The nature, form and extent of compensation, as well as the equitable distribution of the compensation shall be in accordance with law and as ordered by a court of competent jurisdiction.

(2) Where claims exceed or are likely to exceed the maximum amount required by the Authority to be set aside by an operator for compensation for nuclear damage caused by a nuclear incident, the claims shall be settled in the following order:

- (a) claims for compensation for any loss of life or personal injury; and
- (b) claims for other loss or damage after all claims under paragraph (a) have been satisfied.

(3) Interest and costs awarded by the Court for compensation for nuclear damage does not include the minimum liability amount required under section 64 for purposes of sections 63, 65, 67, 68, 69 and 70.

Limitation on right to compensation

67. (1) A person is barred from making a claim for compensation for nuclear damage under this Act, if the action to establish the claim is not brought within

- (a) 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, but in any case not more than thirty years after the incident causing the damage;
- (b) thirty years from the date of the nuclear incident, in the case of loss of life or personal injury; or
- (c) ten years from the date of the nuclear incident, in the case of any other form of nuclear damage.

(2) Subject to the rules of court, a person who claims to have suffered nuclear damage and who has submitted a claim for compensation which is not barred by this Act may amend the claim to take into account any aggravation of the damage, even after the expiration of that period if a final judgment in respect of the claim has not been entered.

Jurisdiction

68. (1) A claim made under this Act for compensation for nuclear damage caused by a nuclear incident occurring within the country or within the exclusive economic zone of the country shall lie to the High Court as a court of first instance.

(2) A person who has a right to compensation for nuclear damage under this Act may bring an action for compensation against the liable operator or directly against the insurer.

Exceptions to liability

69. (1) The operator of a nuclear installation is not liable for nuclear damage

- (a) that is proved to be directly caused by any armed conflict, hostility, civil war or insurrection;
- (b) to the nuclear installation itself or any other nuclear installation, including a nuclear installation under construction on the site where the installation is located;
- (c) to any property on the same site which is used or to be used in connection with a nuclear installation; or
- (d) if the damage suffered by an individual is a result of an act done by that individual with an intent to do mischief.

(2) Where the operator proves that the nuclear damage resulted wholly or partly either from the gross negligence of the person suffering the damage or from an act or omission of the person done with intent to cause damage, the operator may be relieved, wholly or partly, from the obligation to pay compensation in respect of the damage suffered by that person.

Judgments

70. The High Court shall recognise and enforce the final judgment by a foreign court awarding compensation for nuclear damage as if it were a judgment of the High Court, except where

- (a) the judgment was obtained by fraud;
- (b) the party against whom the judgment was pronounced was not given a fair opportunity to present the case of the party; or
- (c) the judgment is contrary to public policy or does not accord with fundamental standards of justice.

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Inspection and enforcement

Annual levies of authorised persons

71. The Authority may, by legislative instrument, make Regulations to establish a graded levying system for

- (a) minimum compensation for nuclear damage arising from an authorised activity or practice; and
- (b) management and permanent disposal of radioactive waste.

Appointment of inspectors and analysts

72. (1) The Authority shall appoint inspectors and analysts to verify and analyse practices and nuclear installations authorised or proposed to be authorised.

(2) The Authority shall issue to an inspector or analyst, an identification card establishing the credence and work specialty of that inspector or analyst.

Powers of the inspector and the analyst

73. An inspector or an analyst may

- (a) at any time during normal working hours of a nuclear installation or as may be determined by the Authority, enter any premises, vehicle, ship or aircraft without hindrance and with any equipment required by the inspector for the performance of the inspector's duty;
- (b) inspect any plans, drawing, record, register or documents pertaining to
 - (i) the design, siting, construction, testing, development operation, activity or abandonment of an installation;
 - (ii) the health and safety, security or environmental aspect of any activity covered by this Act; and
 - (iii) any matter relevant to the enforcement of this Act;
- (c) carry out tests and take samples, measurements and photographs of the facility;
- (d) ask the occupant of any premises, driver of a vehicle, master of a ship, commander of an aircraft or a person who has duties on or in connection with any premises, vehicle, ship or aircraft, to provide the inspector with information relating to the premises, vehicle, ship or aircraft as required by the inspector;

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- (e) obtain information from an operator about the status of safety and security of radiation sources, nuclear materials and any other radioactive material on the nuclear installation of the operator;
- (f) verify compliance of each operator with this Act and the Regulations;
- (g) investigate any incident or accident involving radiation sources, nuclear materials and any other radioactive materials;
- (h) question any person who has duties which may be pertinent to the Authority's enquiries regarding the possession and use of radioactive and nuclear materials; and
- (i) provide the Authority with any requested assistance in the performance of its functions.

Report on inspection

74. (1) An inspector or an analyst shall record in both electronic and hard copies, any observation made during an inspection conducted and make a copy of the record available to the authorised person.

(2) An inspector or analyst shall submit to the Authority a report on an inspection or investigation conducted for appropriate action.

Cessation of activities

75. (1) The Authority may make an order for a temporary cessation of activities, in the case of an imminent or actual hazard to the public or the environment.

(2) The Authority shall order an immediate cessation of the activities of an operator when a situation for which the operator is responsible poses an imminent safety or security hazard to humans and the environment, and shall ensure that the operator resolves the safety and security concerns.

(3) Where there is

- (a) a significant release of nuclear or radioactive material into the environment, or
- (b) a persistent or serious breach of this Act, the Regulations or the conditions of the authorisation,

the Authority shall order the operator to rectify any unsafe condition that might have resulted from the nuclear or radioactive material released into the environment or the breach, and shall order an immediate cessation of operations if the unsafe condition persists.

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(4) The Authority may also modify, suspend or revoke the authorisation.

(5) The Authority shall indemnify an inspector against a liability incurred in the course of discharging a duty as inspector.

Offences, penalties and appeals

Notice to remedy a contravention

76. The Authority shall issue a warning notice to an authorised person who contravenes a minor safety or security requirement or procedure, and shall prescribe in the notice the remedial action to be taken by that person within a time specified in the notice.

False statement and obstruction of inspectors

77. (1) A person who knowingly makes a false or misleading statement to the Authority, or obstructs an officer, an analyst or an inspector of the Authority in the exercise of the functions of the officer, analyst or inspector commits an offence and is liable on summary conviction to a fine of not less than two thousand penalty units and not more than five thousand penalty units or to a term of imprisonment of not less than four years and not more than ten years or to both the fine and the term of imprisonment.

(2) A person who carries on an activity or practice without authorisation or who is found in possession of nuclear material or a radiation source without authorisation commits an offence and is liable on summary conviction to a fine of not less than five thousand penalty units and not more than ten thousand penalty units or to a term of imprisonment of not less than ten years and not more than twenty years or to both the fine and the term of imprisonment.

(3) In addition to the provisions in subsections (1) and (2), the Authority shall confiscate and properly dispose of a nuclear material or radiation source that a person possesses within the country without authorisation, at the cost of the person found in possession of that material.

Handling of radioactive and nuclear materials and devices

78. (1) A person who without authorisation, receives, transfers alters or disposes of a radioactive material or device or a nuclear material or device

- (a) with the intent to cause
 - (i) death or bodily injury to a person, or

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(ii) substantial damage to property or the environment, or
(b) which causes or is likely to cause
(i) death or bodily injury to a person, or
(ii) substantial damage to property or the environment,
commits an offence and is liable on summary conviction to a fine of not more than ten thousand penalty units or to a term of imprisonment of not more than ten years or to both the fine and the term of imprisonment.

(2) A person commits an offence if the person
(a) steals a radioactive or nuclear material, or
(b) smuggles or fraudulently obtains a radioactive material or nuclear material;

and is liable on summary conviction to a fine of not less than five thousand penalty units and not more than seven thousand five hundred penalty units or to a term of imprisonment of not less than ten years and not more than fifteen years or to both the fine and the term of imprisonment.

(3) A person who demands a radioactive material or device or nuclear material or device from another person,
(a) by use of threat,
(b) by use of force, or
(c) by any other form of intimidation under circumstances which indicate the imminence of the threat

commits an offence and is liable on summary conviction to a fine of not less than five thousand penalty units and not more than seven thousand five hundred penalty units or to a term of imprisonment of not less than ten years and not more than fifteen years or to both the fine and imprisonment.

Unlawful use of radioactive or nuclear material

79. A person who uses or makes a threat to use,
(a) radioactive material or device unlawfully, or
(b) nuclear material or device unlawfully

to compel another person, a State or an international organisation to do or refrain from doing any act, commits an offence and is liable on summary conviction to a fine of ten thousand penalty units or to a term of imprisonment of not less than ten years or to both the fine and the term of imprisonment.

Offences relating to nuclear facilities

80. (1) A person commits an offence if that person

- (a) damages a nuclear facility by interfering with the operation of that facility with the knowledge that the damage is likely to cause death or bodily injury, or substantial damage to property or the environment; or
- (b) does an act directed at a nuclear facility and in a manner that
 - (i) results in the release of radioactive material; or
 - (ii) risks the release of radioactive material with the intent that the act will cause death or bodily injury, or substantial damage to property or the environment.

(2) A person who contravenes subsection (1) is liable on summary conviction to a fine of not less than five thousand penalty units and not more than seven thousand five hundred penalty units or to a term of imprisonment of not less than ten years and not more than fifteen years or to both the fine and the term of imprisonment.

(3) A person who demands access to a nuclear facility,

- (a) by use of threat;
- (b) by use of force; or
- (c) by any other form of intimidation under circumstances which indicate the credibility of the threat

commits an offence and is liable on summary conviction to a fine of not more than five thousand penalty units or to a term of imprisonment of not more than three years or to both the fine and the term of imprisonment.

(4) A person who engages in an act to sabotage a facility which uses

- (a) radioactive material or device; or
- (b) nuclear material or device,

commits an offence and is liable on summary conviction to a fine of five thousand penalty units or to term of imprisonment of not more than five years or to both the fine and the term of imprisonment.

Decision of inspector or analyst subject to Appeal

81. (1) A person aggrieved by a decision or measure taken by an inspector in a report submitted to the Authority under section 77(2) may appeal to the Board.

(2) A pending appeal against a decision or a measure taken by an inspector or analyst shall, until the appeal is disposed of, not operate as a stay of that decision or measure.

Complaints procedure

82. (1) A person aggrieved by a decision or action of an inspector, analyst or other employee other than the Director-General of the Authority may, submit a complaint in writing to the Director-General of the Authority.

(2) The complaint shall be submitted to the Board within thirty days from the date the complainant becomes aware of the decision or action to which the complaint relates.

(3) The complaint shall

(a) contain the issues objected to; and

(b) have attached to it, a copy of the decision objected to and any relevant document for consideration and determination of the complaint.

Appointment of Complaints Panel

83. (1) The Board shall within fourteen days of receipt of a complaint appoint a panel consisting of

(a) one representative each of the following:

(i) the Ministry responsible for the affairs of the Authority not below the rank of a Director;

(ii) the Attorney-General's Department not below the rank of a Principal State Attorney;

(iii) the Ministry with responsibility for the undertaking not below the rank of a Director; and

(b) two persons with specialisation in the complainant's field of operation or industry.

(2) Each panel member shall submit a written statement of disclosure of interest or otherwise in activities related to the nuclear materials or substances.

Hearing by the Complaints panel

84. (1) The Board shall refer the complaint to the panel, which shall give a fair hearing to the parties concerned.

(2) The panel shall make a recommendation after hearing the parties and submit the recommendation to the Board stating the reasons for the recommendation.

(3) The panel shall submit the recommendation referred to in subsection (2) to the Board within sixty days from the date the complaint is referred to the panel.

(4) The Board may accept the recommendation of the panel or proceed to take its own decision in the interest of the nation, and shall give reasons for either accepting the recommendation or taking its own decision.

(5) The panel shall cause copies of the record of proceedings and recommendations to be sent to the Board.

(6) The Board shall record and document the recommendation of the panel.

Judicial appeal

85. (1) A person aggrieved by a decision of the Board may appeal to the High Court.

(2) The proceedings at the Court shall be *in camera*.

Financial provisions

Funds of the Authority

86. (1) The funds of the Authority include

- (a) moneys approved by Parliament;
- (b) loans, loan guarantees and grants;
- (c) fees and charges due to the Authority from services rendered by or through the Authority;
- (d) donations and gifts; and
- (e) any other moneys that the Minister responsible for Finance may approve.

(2) Without limiting subsection (1)(a) and to guarantee the financial sustainability of the programmes of the Authority, the Minister of Finance shall present a financial sustainability plan to Parliament within one year after the passage of this Bill.

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(3) The expenses of the Authority including the remuneration of employees, allowances of the members of the Board and other administrative expenses of the Authority shall be paid by the Authority from the funds provided for the Authority under this section.

(4) Where the Authority has an amount outstanding to its credit after it has provided for

- (a) payment of salaries, allowances and other administrative and management expenditure;
- (b) programme implementation, services and investment-related expenditure;
- (c) depreciation of assets;
- (d) repayment of loans, interest; and
- (e) contingency,

in a financial year, the Authority shall invest in short and long-term instruments for the financial sustainability of the current and future operations of the Authority.

Retention and utilisation of internally generated funds

87. (1) Subject to the Ministries, Departments and Agencies (Retention of Funds) Act, 2007 (Act 735), the Authority is authorised to retain moneys realised in the performance of its functions.

(2) The preparation and submission of estimates and the reporting and accounting of estimates are subject to the Financial Administration Act, 2003 (Act 654).

(3) The provisions of article 187 of the Constitution shall apply to the moneys retained under this Act.

(4) Internally generated funds shall

- (a) only be utilised when the activities on which the expenditure will be incurred have been programmed and approved by Parliament in the expenditure budget of the Authority, and
- (b) not be used for the payment of salaries, staff benefits and other allowances except where the allowances are directly related to the provision of services that will lead to increased revenue.

(5) The Authority shall only incur expenditure for a particular month if the records of collection for the previous month, bank lodgements and expenditure returns for the previous month have been submitted to the Ministry of Finance.

Annual budget of the Authority

88. The Authority shall, not later than three months before the end of each financial year, cause to be prepared and submitted to the Minister, an annual budget in respect of the ensuing financial year.

Accounts and audit

89. (1) The Board shall keep books of accounts and proper records in relation to them in a form approved by the Auditor-General.

(2) The Board shall submit the accounts of the Authority to the Auditor-General for audit within three months after the end of the financial year.

(3) The Auditor-General shall not later than three months after the end of the financial year, audit the accounts and forward a copy of the audit report to the Minister.

Annual report and other reports

90. (1) The Board shall within one month after receipt of the audit report, submit to the Minister an annual report covering the activities and the operations of the Authority for the year to which the report relates.

(2) The annual report shall include the report of the Auditor-General.

(3) The Minister shall, within one month after the receipt of the annual report, submit the report to Parliament with a statement the Minister considers necessary.

(4) The Board shall also submit to the Minister any other report which the Minister may require in writing.

Regulations and guidelines

Regulations

91. (1) The Minister, on the advice of the Board, may by legislative instrument, make Regulations for the efficient and effective implementation of this Act.

(2) Without limiting subsection (1), the Regulations shall provide for

- (a) the safety and security of
 - (i) nuclear material and facilities; and
 - (ii) radiation-emitting devices;

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- (b) the types of authorisation and their duration, renewal, suspension, modification and revocation;
- (c) the programme and procedure of inspection;
- (d) how an inspection is to be conducted and the status and powers of an inspector;
- (e) requirements based on radiation protection principles of dose justification, dose limitation and dose optimization;
- (f) the regulation of radiation protection, occupational exposure, public exposure, medical, chronic and emergency exposure;
- (g) the criteria for the categorisation of radioactive sources;
- (h) a list of levies and authorisation fees for categories of activities and practices,
- (i) penalties for non-compliance with authorisation conditions in addition to prohibition and confiscation;
- (j) penalties for
 - (i) damage to sealed radioactive sources; and
 - (ii) loss of control of sealed radioactive sources;
- (k) for the transportation of radioactive material consistent with the technical requirement of regulations for the safe transport of radioactive materials of the International Atomic Energy Agency, including
 - (i) a list of controlled items;
 - (ii) requirements for notification prior to shipment of exports, where notification is made a condition of the authorisation;
 - (iii) the establishment procedures for the participation of stakeholders at appropriate stages during the assessment, permission and review process, including persons residing in the vicinity of a proposed nuclear facility;
 - (iv) the criteria for the evaluation of an application and the grant of a permit;
 - (v) the periodic revision or updating of the list of controlled items to reflect developments in technology or changes in relevant circumstances;
 - (vi) a Schedule of fees or charges for the issue of permits;

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- (vii) provisions for trans-shipment of material or commodities otherwise not requiring permission for export; and
- (viii) requirements for records to be kept regarding authorised activities;
- (l) in respect of persons applying a medical procedure which utilises nuclear material, radioactive material or any radiation,
 - (i) the qualification of persons who will apply the procedure;
 - (ii) refresher training requirements for persons who will apply the procedure;
 - (iii) measures for the protection of persons who operate the radiation emitting device and equipment containing radionuclides, applied in the procedure; and
 - (iv) measures for protecting patients, including justification for the use of the procedure and the maximum dose limit a patient is to be exposed to; and
- (m) the design and performance criteria for radiation emitting devices and equipment containing radionuclides;
- (n) the processes for mining uranium and thorium;
- (o) requirements for authorising nuclear power plants;
- (p) requirements for authorising nuclear facilities;
- (q) the management of nuclear and radioactive waste;
- (r) the authorising requirements for petroleum and natural gas exploration and extraction;
- (s) the segregation, characterisation, conditioning, storage and treatment of radioactive waste;
- (t) the basic content of a decommissioning plan and for the financial aspects of a decommissioning exercise;
- (u) the transportation and storage of nuclear and radioactive materials and waste;
- (v) transport of radioactive material and sources in accordance with International Atomic Energy Agency requirements;

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- (w)* nuclear power generation;
- (x)* education, training, qualification and certification requirements for personnel to manage and operate facilities;
- (y)* administrative sanctions to be imposed on persons who possess nuclear material and radiation sources;
- (z)* the establishment of obligations and standards approved by the International Atomic Energy Agency on siting, design, construction, operation, assessment and verification;
- (aa)* standard information on airborne and liquid radioactive discharges into the environment from nuclear reactors and reprocessing plants in normal operation;
- (bb)* the basic content of an emergency preparedness plan, whether on site and off site, and trans-boundary emergencies;
- (cc)* safety and security of radiation sources and irradiation facilities;
- (dd)* the control of illicit trafficking of nuclear material;
- (ee)* the implementation of additional Protocols to the Non-Proliferation Treaty and Safeguards Agreement;
- (ff)* the requirements and standards for providing monitoring services, calibration of radiation monitoring instruments and consultancy to authorised practices; and
- (gg)* the implementation of other international conventions which relate to nuclear technology to which Ghana is signatory and has ratified.

Guidelines, standards and procedures

92. (1) The Authority may also develop guidelines, standards and procedures on the following:

- (a)* notification, authorisation and exemptions of practices and activities;
- (b)* radiation protection and safety requirements for workers, the public and the general environment;
- (c)* security measures for deterring, detecting and delaying unauthorised access to, the theft of, loss or unauthorised use or removal of radioactive sources or nuclear material;

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- (d) inspection and reporting procedures; and
- (e) any other subject matter of relevance for the safety and security of the employees of the Authority.

(2) The Authority shall cause the guidelines, standards and procedures to be published in the *Gazette*.

Miscellaneous provisions

Interpretation

93. In this Act, unless the context otherwise requires, “activity” includes

- (a) the design, manufacture, construction, import, export, distribution, sale, loan, commissioning, use, operation, maintenance, repair, transfer, decommissioning or possession of radiation sources for industrial, education, research, agriculture and medical purposes;
- (b) the transport of radioactive material;
- (c) the mining and processing of radioactive ores;
- (d) the closing down of associated facilities;
- (e) the cleanup of sites affected by residues from past activities;
- (f) the development, production and use of nuclear energy;
- (g) radioactive waste management activities, including the discharge of effluents;
- (h) an activity involving a nuclear material as defined in the Safeguards Agreement; and
- (i) an activity involving a nuclear material in a nuclear installation;

“Additional Protocol” means the Protocol Additional to the Agreement between the Government of the Republic of Ghana and the International Atomic Energy Agency for the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons, which entered into force on the 12th of June 1998;

“applicant” means a person who has applied for authorisation under this Act;

“authorisation” includes the granting by a regulatory body or

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- other governmental body of written permission for an operator to perform specified activities licensing, certification or registration;
- “authorised person” means a person who has been granted authorisation;
- “Authority” means the Nuclear Regulatory Authority established under section 3;
- “baseline survey” means an assessment of a site that is to be decommissioned before the decommissioning process is commenced;
- “Board” means the governing board of the Authority constituted under section 7(1);
- “civilian applications” means the non-military use of a nuclear material;
- “civilian nuclear reactor” means a non-military nuclear reactor;
- “clearance” means the removal of radioactive materials or radioactive objects within authorised practices from any further control by the regulatory body;
- “Commission” means the Atomic Energy Commission established under section 1 of the Atomic Energy Commission Act, 2000 (Act 588);
- “consignee” means a person or government which receives a consignment;
- “consignor” means individual, organisation or government which prepares a consignment for transport, and is named as consignor in the transport document;
- “consignment” means any package or load of radioactive material and nuclear material presented by a consignor for transportation;
- “controlled items” means an item determined by the Authority under section 28(1) as being subject to control, as a national policy and in the interest of the security of the country;
- “controlled practice” means a practice that is determined by the Authority under section 28(1) as being subject to control, as a national policy and in the interest of the security of the country;
- “Convention on Supplementary Compensation for Nuclear

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- “Damage” means the Convention on Supplementary Compensation for Nuclear Damage adopted on 12th of September, 1997 by a Diplomatic Conference held 8-12 September 1997, and was opened for signature at Vienna on 29 September 1997 at the 41st General Conference of the International Atomic Energy Agency;
- “Director-General” means the Director-General appointed under section 15;
- “discharge” means planned and controlled releases into the environment, as a legitimate practice, within limits authorised by the regulatory body, or liquid or gaseous radioactive materials that originate from regulated nuclear facilities during normal operation;
- “end state” means the state in the final stage of radioactive waste management in which the waste is passively safe and does not depend on institutional control;
- “exclusion” means the exemption of a particular category of exposure from the scope of this Act on the grounds that it is not considered amenable to control;
- “exclusive economic zone” means the area beyond and adjacent to the territorial sea which does not extend beyond two hundred nautical miles from the baselines from which the breadth of the territorial sea is measured;
- “exemption” means a determination by the Authority that a source or practice or some aspects of the source or practice need not be subjected to regulatory control on the basis that the exposure, including potential exposure, due to the source or practice is too small to warrant the application of those aspects;
- “export” means the physical transfer of nuclear material and related equipment, information and technology determined by the Authority as originating from the country, into an importing State;
- “facility” includes nuclear facilities, irradiation installations, mining and raw material processing facilities such as uranium mines, radioactive waste management facilities

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- and other places where radioactive material is produced, processed, used, handled, stored or disposed of or where radiation generators are installed on a scale that consideration of protection of safety is required;
- “import” means the physical transfer, into the country, originating from an exporting State, of nuclear material and related equipment, information and technology, as defined by the Authority;
- “intervention” means any act intended to reduce or avert exposure or the likelihood of exposure to sources which are not part of a controlled practice or which are out of control as a consequence of an accident;
- “ionising radiation ” means, for the purposes of radiation protection, radiation capable of producing ion pairs in biological materials;
- “location outside facilities” means an installation or location, which is not a facility, where nuclear material is customarily used in amounts of one effective kilogram or less;
- “man-made factors” includes settlements and related activities likely to impact on the safety of a nuclear installation;
- “measures of reinstatement” means any reasonable measures which have been approved by the Authority 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;
- “mine or mill processing radioactive ores” means installation for mining, milling or processing ores that contain uranium series or thorium series radionuclides;
- “Minister” means the Minister responsible for the Authority;
- “non-ionising radiation” means any type of electromagnetic radiation that does not carry energy per quantum to ionise atoms or molecules;
- “notification” means a document submitted to the Authority by a person of an intention to carry out an activity or practice;
- “nuclear damage” means

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- (a) loss of life or personal injury;
- (b) loss of property or damage to property;
- (c) economic loss arising from loss, injury or damage referred to under paragraph (a) or (b), and incurred by a person entitled to claim in respect of that loss, injury or damage;
- (d) the costs of measures taken or to be taken to reinstate an impaired environment, except where the impairment is insignificant;
- (e) loss of income derived from an economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment;
- (f) the cost of preventive measures, and further loss or damage caused by those measures;
- (g) any other economic loss, other than that caused by the impairment of the environment, if permitted by the general law on civil liability of a court of competent jurisdiction; and
- (h) in the case of paragraphs (a) to (e) and (g) above, 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 that matter, or from a combination of radioactive properties with toxic, explosive or other hazardous properties of that matter;

“nuclear energy” means energy released in nuclear fission or fusion;

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

“nuclear incident” means any occurrence or series of occurrences having the same origin which

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- (a) causes nuclear damage, but with respect to preventive measures only, or
- (b) creates a grave and imminent threat of causing that damage;

“nuclear installation” means

- (a) nuclear power plant, enrichment plant or reprocessing facility;
- (b) any nuclear reactor other than one with which a means of sea or air transport is equipped for use as a source of power, whether for its propulsion or for any other purpose;
- (c) any factory using nuclear fuel for the production of nuclear material, or any factory that processes nuclear material, including any factory for the re-processing of irradiated nuclear fuel; and
- (d) 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; and
- (b) radioactive products or waste;

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

“operator” means the person legally recognised as responsible for the operation of a nuclear installation or the person designated by the legally recognised operator;

“ore” means a geological material that may contain

- (a) nuclear material or radioactive material; or
- (b) nuclear substance or radioactive substance;

“orphan source” means a radioactive source which is not under regulatory control because it has never been under

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- regulatory control, or because it has been abandoned, lost, misplaced, stolen, or transferred without proper authorisation;
- “Paris Convention on Third Party Liability in the Field of Nuclear Energy” means the Convention on Third Party Liability in the Field of Nuclear Energy adopted in Paris and which entered into force on 1st of April, 1968;
- “peaceful use” means any use of a nuclear material, radioactive material, nuclear technology or radioactive technology, other than for a military purpose;
- “practice” means any human activity that introduces additional sources of exposure or exposure pathways or extends exposure to additional people or modifies the network of exposure pathways from existing sources, so as to increase the exposure or the likelihood of exposure of people or the number of people exposed;
- “preventive measure” means any reasonable measure approved by the Authority to be taken by a person to prevent or minimize a nuclear damage after an incident has occurred;
- “radiation” means anything that may cause radiation exposure, such as by emitting ionising or non-ionising radiation or releasing radioactive substances or materials;
- “radioactive material” means
- (a) anything containing radio nuclides that may cause radiation exposure; or
 - (b) a naturally occurring radioactive material;
- “radioactive products” means any material made radioactive by exposure to radiation incidental to the production or utilisation of nuclear fuel, but does not include radioisotopes which have reached the final stage of fabrication and can be used for any scientific, medical, agricultural, commercial or industrial purpose;
- “radioactive source” means radioactive material that is permanently sealed in a capsule or closely bonded, in a solid form and which is not exempt from regulatory control and includes any radioactive material released through the breakage or leaking of the source, but does not include nuclear mate-

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rial or material encapsulated for disposal;

“radioactive waste” means material, in whatever physical form, remaining from practices or interventions and for which further use is not foreseen

- (a) that contains or is contaminated with radioactive substances and has an activity or activity concentration higher than the level set for clearance from regulatory requirements, and
- (b) exposure to which is not excluded from this Act or Regulations;

“reasonable measure” means a measure permitted under the laws of Ghana as being appropriate and proportionate to the damage, having regard among other things to

- (a) the nature and extent of the damage incurred or, in the case of preventive measures, the nature and extent of the risk of that damage;
- (b) the extent of effectiveness of the measure at the time it was taken; and
- (c) relevant scientific and technical expertise;

“Safeguards Agreement” means an Agreement between the Government of the Republic of Ghana and the International Atomic Energy Agency for the application of safeguards in connection with the Treaty on the Non-proliferation of Nuclear Weapons, which entered into force on 17th February, 1975 for the purpose of implementation of safeguards;

“sealed source” means radioactive material that is

- (a) permanently sealed in a capsule; or
- (b) closely bounded and in a solid form;

“security” means measures to prevent unauthorised access or damage to, loss, theft or unauthorised transfer of, radioactive sources or nuclear material;

“source” includes any of the following that may cause radiation exposure:

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- (a) the emission of ionising radiation;
- (b) the release of radioactive substances or materials;
- (c) materials that emit radon in the environment,
- (d) a sterilization gamma irradiation unit; or
- (e) an x-ray unit;

“source material” means a material which is a source;

“Special Drawing Rights” means the unit of account determined and used by the International Monetary Fund for its operations and transactions;

“spent fuel” means nuclear fuel that

- (a) is removed from a reactor after irradiation because it cannot be used in its present form due to depletion of fissile material, poison build up or radiation damage; or
- (b) has been irradiated and permanently removed from a reactor core;

“unamenable” includes sources of radiation exposure that cannot be controlled from the point of view of protection and safety and cosmic rays at ground level and potassium 40 in the environment; and

“Vienna Conventions on Civil Liability for Nuclear Damage” means the Vienna Convention on Civil Liability for Nuclear Damage adopted by a Diplomatic Conference, 8-12 September 1997, and was opened for signature at Vienna on 29th September, 1997 at the forty-first General Conference of the International Atomic Energy Agency.

Revocation and savings

94. (1) The Radiation Protection Instrument, 1993 (LI 1559) is revoked.

(2) Despite the revocation under subsection (1), an authorisation granted to a person under the Radiation Protection Instrument, 1993 (L.I. 1559) to engage in an activity or a practice to which this Act applies shall, subject to modifications to bring it into conformity with this Act, be deemed to be an authorisation granted under this Act and shall continue to be in force until its revocation or expiration.

Transitional provisions

95. (1) A person employed by the Commission to a position listed

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under the First Schedule is, on the commencement of this Act, deemed transferred to the Nuclear Regulatory Authority on terms and conditions which are not less favourable in aggregate to the terms and conditions previously enjoyed by the person under the employ of the Commission.

(2) The equipment listed under the Second Schedule which belongs to the Commission is, on the commencement of this Act, transferred to the Nuclear Regulatory Authority.

(3) A contract subsisting between the Commission and a person that was entered into for the exclusive benefit of the Radiation Protection Institute shall, on the commencement of this Act, be deemed to be a contract between the Commission and the Nuclear Regulatory Authority.

(4) The non-ionising radiation equipment of the Commission existing before the commencement of this Act is, on the commencement of this Act, deemed to be jointly owned by the Commission and the Nuclear Regulatory Authority.

Consequential amendments

96. The enactments specified under Column 1 of the Third Schedule are amended to the extent corresponding under Column 2 of that Schedule.

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FIRST SCHEDULE

(Section 95 (1))

List of persons to be transferred to the Nuclear Regulatory Authority

Position	Number
1. Chief Research Scientist	1
2. Senior Research Scientist	2
3. Research Scientist	7
4. Assistant Research Scientist	5
5. Trainee Research Scientist	3
6. Chief Technologist	1
7. Principal Technologist	1
8. Senior Technologist	1
9. Technologist	2
10. Principal Auditing Assistant	1
11. Principal Administrative Assistant	1
12. Principal Accounting Assistant	1
13. Driver Grade 1	1
14. Driver Grade 2	1
15. Technologist (IT)	1
TOTAL	29

SECOND SCHEDULE

(Section 95 (2))

**List of equipment to be transferred to the Nuclear
Regulatory Authority**

A. Regulatory Inspections Kits

1. Radcal model 1015 radiation monitor
2. Keithley model 35075 digital kVp meter
3. kVp III digital meter model 07-494
4. Rad check plus - model 06 - 526, nuclear Associates
5. Digital x-ray pulse counter model 07-453, nuclear Associates
6. Rados survey meter RDS-120, 205 63054 + CM probe
7. Darkroom Kit (Sensitometer, Densitometer, thermometer)
8. Beam alignment test tool
9. Radiation Monitor with nuclide identifier
10. Digital QC Kit 3500 model 188
11. Darkroom and Film Processor QC Kit
12. Digital Dose rate meter Field Spec

B. Authorisation, Inspection and Enforcement

1. Computer and software for regulatory authority information system
2. Check lists for inspection of various facilities

C. Other Equipment

1. Polimaster (5)
2. Identifmder (3)
3. Neutron Search Detector Set (1)
4. Backpack Radiation Survey Meter Set (1)
5. HPGe Detector Set (1)
6. Inspector 1000 with probes set (1)
7. Alph-Betacounter (Radiagem & Ludlum) (3)
8. Micro-seivert Dose rate meter (1)
9. Portable survey meter (3)
10. Ion Chamber (Themo) (2)
11. Tele Probe (1)
12. Sony LCD Projector and accessories (1)
13. Thermo electronic corporation EPD with CD

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THIRD SCHEDULE

(Section 96)

Consequential amendments

Column 1 <i>(Enactment)</i>	Column 2 <i>(How affected)</i>
1. Atomic Energy Commission Act, 2000, (Act 588) 2. Environmental Protection Agency Act, 1994 (Act 490) 3. Factories, Shops and Offices Act, 1970 (Act 328)	Sections 3(1) (a) and (e) and 14 are repealed. Section 12 is amended by inserting after subsection (2) “(3) Despite subsection (1), the Nuclear Regulatory Authority established under section 3 of the Nuclear Regulatory Authority Act, 2014 (Act.....) shall issue the appropriate notice, where the activity or practice to be undertaken involves a nuclear or radioactive material. ”Section 83(2) is amended by <i>(a)</i> deleting “and” after paragraph (g); <i>(b)</i> inserting “and” after paragraph (h); and <i>(c)</i> inserting after paragraph (h), paragraph (i) “(i) the premises of a facility as defined under the Nuclear Regulatory Authority Act, 2014 (Act.....).”
4. Minerals and Mining Act, 2006 (Act 703)	<i>(a)</i> Section 62 is amended by the substitution for subsections (2) and (3) of “(2) Where a radio-active mineral is discovered in the course of exercising a right under this Act or under another enactment, the holder of the mineral right or another person shall immediately notify the Nuclear Regulatory Authority, the Commission and the Geological Survey Department of the discovery.

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	<p>(3) Where a radioactive mineral is discovered on land other than land subject to a mineral right, the owner of the land shall immediately notify the Nuclear Regulatory Authority, the Commission and the Geological Survey Department of the Discovery.”;</p> <p>(b) By the substitution for section 63, of “63. A holder of a licence or lease under section 62 shall within the first week of each month furnish the Nuclear Regulatory Authority, the Commission and the Geological Survey Department with a true report in writing of the prospecting and mining operations conducted by the holder in the immediately preceding month with respect to radioactive minerals.”.</p> <p>(c) By the substitution for section 64, of “64. (1) A person shall not export a radioactive mineral except under or in accordance with the terms and conditions of a permit granted for that purpose by the Nuclear Regulatory Authority acting after consultation with the Minister.</p> <p>(2) A permit issued under subsection (1) shall be in the form and is subject to the payment of the fee the Minister responsible for the Nuclear Regulatory Authority acting in consultation with the Minister, may on the advice of the Commission determine.”</p>
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Date of *Gazette* notification: 11th April, 2014

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MEMORANDUM

The Atomic Energy Commission Act, 2000 (Act 588) established the Commission under which is established the Radiation Protection Board. The functions of the Radiation Protection Board among others are to supervise the carrying out of all requirements designed to serve the safety and health of radiation workers and the environment and to ensure that nothing on its premises or elsewhere suffers nuclear damage.

The Radiation Protection Board is also responsible for ensuring that, safety and health of radiation workers, irradiation of nuclear material and the radioactive waste from these activities and practices are properly handled. It also carries out inspections, authorisation, and enforcement of practices in compliance with the Constitution and other international legal instruments.

The increase in peaceful uses of nuclear materials and radioactive substances for health, agriculture and industry makes it imperative that the necessary structures are put in place to ensure that these materials and substances are well regulated for the safety of persons and the environment and the physical protection of materials and substances. The country's research and educational facilities cannot do without delving into the areas of nuclear technology and ionising radiation and their effects.

For safety and security reasons in the West Africa sub-region and Africa in its entirety, and particularly since the 11th of September 2001, Ghana's role at the International Atomic Energy Agency (IAEA) in facilitating some of the important legal instruments of the Agency for the protection of human health and the environment increased tremendously and we need to implement and comply with these instruments.

The International Atomic Energy Agency's Illicit Trafficking Database for Nuclear and Radioactive Materials reveals an increase in the incidence of trafficking of these materials globally. This coupled with the general instability in our sub-region requires an effective and independent body to deal with these emerging threats.

An independent regulatory authority will better provide for the adequate protection of the present generation, posterity and the environment against the harmful effects of ionising and non-ionising

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radiation for the safety and security of radiation sources, nuclear materials and radioactive waste. It will also ensure that radioactive sources and nuclear materials including radioactive waste from within and outside the country are properly controlled.

Under international law, by the provisions of the relevant international treaties and conventions to which Ghana is a Party, the Radiation Protection Board is expected to be completely independent from promoters and other users of nuclear energy and radioactive sources.

The current situation where the Radiation Protection Board is part of the Ghana Atomic Energy Commission is not appropriate. The activities of the Commission itself need to be regulated. The establishment of the Authority will enable the Ghana Atomic Energy Commission to keep its current function of promoting the peaceful use of nuclear technology and energy, research, education and consultancy. The Authority will be an independent body regulating the activities of persons who use nuclear energy, including the Commission.

The proposed Nuclear Regulatory Authority will allow for the beneficial and peaceful uses of nuclear energy and its applications. The Act also provides a mechanism for the establishment of an adequate system of regulatory control.

The objectives of this Bill are therefore to establish the Nuclear Regulatory Authority with its functions and responsibilities clearly defined; to provide for the beneficial and peaceful uses of nuclear energy; to provide for the adequate protection of individuals, society and the environment, now and in the future against the harmful effects of nuclear and radioactive materials; establish a regulatory control system including authorisation, inspection, and enforcement; and to enable the country to meet its obligations under the relevant international legal instruments.

The provisions of the Bill apply to all activities and practices involving the peaceful use of ionising and non-ionising nuclear and radioactive materials conducted under the jurisdiction and control of the country, including production, possession, use, import, export, transport, transfer, handling, and management or any other activity or practice identified by the Nuclear Regulatory Authority.

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Clause 1 deals with the scope of application of provisions in the Bill. The Bill when enacted will apply to the management of radioactive waste resulting from civilian applications in the country; the regulation and management of the peaceful use of nuclear energy and radiation under the jurisdiction and control of the country including the production, possession, use, import, export, transportation, transfer, handling and management, or other related activities or practices identified by the Authority; and management of spent fuel resulting from the operation of civilian nuclear reactors in the country but will not apply to any exposure, the magnitude of which is not amenable to control through the requirements and standards determined by the Authority

Clause 2 binds the Republic to the provisions of the Bill on its enactment.

Clause 3 establishes the Nuclear Regulatory Authority, and the objects of the Authority are specified under *clause 4*. The Authority is mandated under *clause 4* to ensure that radiation and nuclear energy are used by only persons authorised under provisions of the Bill, for peaceful purposes; to provide adequate protection of the environment and persons against the harmful effects of radiation hazards; and to pursue and to ensure strict compliance with provisions of the Bill and the Regulations made under the Bill after its enactment.

The functions of the Authority are specified under *clause 5*. They include developing national policies on the regulation and management of activities and practices with respect to nuclear safety, security of nuclear and radioactive materials, radiation and the implementation of safeguards as provided for in the Bill.

The Authority is also to regulate the introduction of radiation sources, nuclear materials, equipment or practices that expose persons and the environment to radiation; issue, modify, suspend or revoke authorisation, and determine conditions for authorisation; regulate research on radiation and nuclear safety and security and of radioactive waste matters.

Furthermore the Authority is to regulate the use of radioactive materials in the exploration, exploitation and extraction of oil and gas, and the mining and milling of radioactive ores and other ores associated with radioactive and nuclear materials; define the detailed obligations to

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be placed on persons who possess radiation sources and nuclear materials, including financial conditions; establish and maintain a national register of radiation sources and of persons authorised to carry out any activity or practice related to a source of radiation.

The Authority is to collaborate with agencies responsible for emergency to establish plans and procedures for coping with any radiological emergency and abnormal occurrence involving a nuclear material, radiation source or any other radioactive source; ensure that the operators provide training, information and guidance on nuclear safety, security and safeguards, and radiation protection.

The Authority is also to advise the Minister on the preparation of Regulations for the effective implementation of the Bill when enacted and to establish regional and other offices as it may consider necessary for the proper performance of its functions.

Clause 6 deals with the powers of the Authority. *Clause 7* establishes the governing body of the Authority as a Board consisting of the chairperson, the Director-General, one representative of the Environmental Protection Agency, one representative of the National Security Council and three other members with cognate background and experience in nuclear and allied sciences at least one of whom is a woman. Members of the Board are appointed by the President in accordance with article 70 of the Constitution.

Clause 8 to *14* makes provision for tenure of office of members of the Board (*clause 8*), functions of the Board (*clause 9*), meetings of the Board (*clause 10*), disclosure of interest by members of the Board (*clause 11*), establishment of committees of the Board (*clause 12*), allowances for members of the Board (*clause 13*) and ministerial directives (*clause 14*) which are standard provisions.

Clause 15 provides for the appointment of a Director-General for the Authority in accordance with article 195 of the Constitution. The Director-General shall hold office in accordance with the terms and conditions specified in the letter of appointment and shall be removed from office for incapacity, malfeasance or incompetence.

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Clause 16 provides for the functions of the Director-General. The Director-General is responsible for the day to day administration of the affairs of the Authority and is answerable to the Board in the performance of functions assigned to the Director-General under this Act and functions determined by the Board. *Clause 17* provides for the appointment of a Deputy Director-General to assist the Director-General.

Clause 18 provides for the appointment of other staff of the Authority. Other public officers may be transferred or seconded to the Authority or may give assistance to the Authority. *Sub-clause (6)* of this *clause* protects staff of the Authority from civil liability for anything done, reported or said in good faith in the performance of a function, the exercise of a power or the discharge of a duty under provisions of this Bill. The Authority is however not relieved from its liability in tort or contract.

Clause 19 provides for the appointment of an officer of the Authority as the Secretary to the Board. *Clause 20* empowers the Board to establish directorates necessary for the operation of the Authority. A directorate is to be headed by a Director.

Clause 21 prohibits an activity or a practice which involves the use of nuclear material, radioactive material or radiation without authorisation from the Authority.

Clause 22 allows the Director-General, an employee or other person authorised by the Director-General, access to the relevant records, books or facilities of a person requested by the Authority to provide some information and the person shall make available to the Authority, information considered necessary by the Authority.

Clause 23 specifies the obligations of an authorised person. *Clause 24* mandates the Authority to adopt requirements for protection of persons from harmful effects arising from exposure to radiation. The Authority is by Regulations, to prescribe measures aimed at preventing exposure of a person to radiation.

Clause 25 prohibits a person from applying a medical diagnosis or therapy that utilizes nuclear material, radioactive material or any radiation on another person, except where that person is authorised. A person who contravenes this *clause* commits an offence and is liable on summary conviction to a fine of not less than one thousand penalty units

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and not more than two hundred and fifty thousand penalty units or to a term of imprisonment of not less than four years and not more than five years or to both the fine and imprisonment.

Clause 26 seeks to protect a patient by obliging an authorised person to administer a diagnostic or therapeutic exposure of radiation to a patient only on the prescription of the medical officer assigned to that patient.

Clause 27 requires the Authority to establish and maintain a national register of radiation sources categorised by taking into account their potential to cause injury to persons, society and the environment.

Clause 28 requires the Authority to establish a national register of export, import, trans-shipment and transport of radioactive sources. The Authority is to determine and publish in the *Gazette* any radioactive or nuclear material, equipment or technology that is subject to control as a national policy and in the interest of the security of Ghana. This *clause* requires a person who intends to export, import, trans-ship or transport a controlled item to apply to the Authority in writing for authorisation.

Clause 29 specifies matters to be considered before authorising an applicant to export an item that is subject to control by the Authority.

Clause 30 deals with recovery of orphan sources. An authorised person who has lost control of a radioactive source shall, report the loss or any other incident that could pose a significant risk to the safety or security of persons and the environment. The Authority is to collaborate with the Ministry responsible for National Security and agencies responsible for emergency to develop a national strategy for the prompt recovery and control of an orphan source.

Clause 31 requires an applicant for authorisation to have in place an appropriate emergency preparedness plan before being granted authorisation. Some of the basic matters to be addressed in an emergency preparedness plan include identifying the conditions that could create a need for emergency intervention; requiring the applicant to immediately notify the Authority and other government agencies determined by the Authority, of any situation or incident that poses a risk of radiological injury and requires emergency intervention and specifying the procedure for terminating each emergency response or action. An authorised person is to ensure that persons likely to be affected by an emergency are well

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educated and informed about the potential risks of that emergency, and that the emergency plan is prepared in consultation with relevant emergency intervention or emergency responders, including the traditional authority, the local authority, and district, regional and national administrative authorities.

Clause 32 imposes an obligation on the Authority to develop and maintain a national emergency plan to respond to nuclear or radiological emergencies. The plan will detail allocation of responsibilities and actions among relevant governmental and non-governmental bodies and will be reviewed every two years.

Clause 33 places an obligation on the Authority to inform the International Atomic Energy Agency of any event involving nuclear or radiological emergency that poses a risk of radioactive contamination that spreads beyond the boundaries of Ghana.

Clause 34 prohibits a person from constructing or operating a nuclear installation or conducting a related activity unless the person is authorised by the Authority. Also, a person who intends to undertake maintenance, expansion, an alteration or activity related to a site or structure of an authorised facility is to obtain authorisation from the Authority before commencing the activity.

Clause 35 requires an operator to ensure the safe and secure conduct of any activity or practice associated with that operator's facility.

Clause 36 requires the Authority to establish a process that is consistent with procedures contained in the national nuclear development plan for the evaluation of proposed sites for nuclear installations in the country. The Authority is to approve the proposed location for the development of a nuclear installation and associated facilities before the detailed evaluation of the site and preconstruction review and assessment of the proposed facility are commenced.

Clause 37 deals with the evaluation of sites for nuclear installations. It is a requirement for a person who intends to construct and operate a nuclear installation to prepare a site evaluation report for assessment and review by the Authority. Basic information which a site evaluation report should contain is also specified under this *clause*.

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Clause 38 mandates the Authority to conduct a pre-construction review and assessment of a proposed nuclear installation before permitting its construction. Matters that will be assessed include the competence and capability of the applicant to meet relevant permit or authorisation requirements; the potential environmental impact of the proposed facility and arrangements for the management of radioactive waste and decommissioning.

Clause 39 requires the Authority, during the construction of a nuclear installation, to review and assess the development of the facility design through documentation submitted by the operator to determine its continued acceptability and to review and assess the progress of research and development activities in connection with demonstrating the acceptability of the design.

Clause 40 mandates the Authority to review and assess the commissioning programme of the nuclear installation and if necessary establish a schedule for further review and assessment; the limits and conditions for radiation protection; the recording and reporting systems and the adequacy of physical protection measures, among others.

Clause 41 requires the Authority to complete the review and assessment of the results of non-nuclear commissioning tests and arrangements for periodic testing, maintenance, inspection, and control of modifications and surveillance, before permitting the loading of nuclear fuel or initial criticality.

By *clause 42*, the Authority is given discretion during the operation of a nuclear installation to review, assess and approve, any changes in operational limits and conditions or significant safety-related modifications, and make periodic reviews of the operator's compliance with relevant terms and conditions related to the safety and security of the installation.

Clause 43 prohibits a person or entity from operating a radioactive waste management facility, unless the person or entity is authorised by the Authority. An application is to be submitted to the Authority together with a plan for the discontinuation of the operation of the facility, and the Authority is required to approve the plan before granting authorisation for the operation of the facility.

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Clause 44 specifies the duties of a person authorised to manage radioactive waste under this Bill. *Clause 45* obliges a person authorised to manage a radioactive waste management facility to ensure the safety and security of the facility throughout its operational life.

Clause 46 gives power to the Minister acting on the advice of the Authority, to make Regulations that ensure the safe and secure management of radioactive waste in the country, and in particular, to establish the safety and security requirements for the protection of the public and the environment from adverse impacts of radioactive waste management activities. Other matters include to establish a system of institutional control for radioactive waste management activities, including regulatory inspection, documentation of the inspection and report on the inspection; and to establish a system of enforcement to ensure compliance with applicable Regulations and the terms and conditions of each authorisation for radioactive waste management activities.

Clause 47 prohibits the importation of radioactive waste generated in another country into this country for any purpose. *Clause 48* however allows an authorised person to export waste generated within the country after the Authority has granted authorisation to the authorised person for the export and the destination of the export for storage or disposal should not be beyond latitude 60 degrees south.

Clause 49 specifies the conditions to be met by a person before the Authority authorises that person to export. The conditions include, that the applicant has established procedures that ensure that the importing country is notified of the transfer of the radioactive waste or spent fuel and has consented to the transfer before its receipt; an undertaking that movement of the exported material will be conducted in conformity with relevant international obligations in any country through which the material will transit; and that the importing country possesses the administrative and technical capacity as well as the regulatory structure needed to manage the exported radioactive waste or spent fuel in a manner that ensures its safety and security, consistent with relevant internationally recognised standards, and in particular those promulgated by the International Atomic Energy Agency.

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Clause 50 deals with the re-import of radioactive waste exported out of the country. The provision states that, if a permitted export of radioactive waste cannot be completed in conformity with provisions of the Bill, the radioactive waste shall not be re-imported into the country, unless the permit holder has provided an alternative safe and secure arrangement approved by the Authority. A contravention of this provision is an offence and the offender is liable on summary conviction to a fine of not more than two thousand five hundred penalty units or to imprisonment for a term of not more than five years or to both the fine and the imprisonment.

Clause 51 (1) requires a person who intends to transport radioactive waste to obtain authorisation from the Authority. *Subclause* (2) specifies the technical requirements of the regulations for the safe transport of radioactive materials made by the International Atomic Energy Agency as the law that will apply to the transport of radioactive or nuclear material in the absence of Regulations made under *clause 91(2)(k)*.

Clause 52 deals with decommissioning. It places an obligation on the Authority to publish a notice in the *Gazette*, specifying the procedure for the decommissioning of a nuclear facility. The notice is to include, steps to be taken to resolve any safety and environmental issues and conditions of the end state of decommissioning; limits and conditions for the removal of regulatory controls for a facility that contains radionuclides; and criteria for the clearance of material during and after decommissioning. The Minister shall on the advice of the Authority, by legislative instrument, make Regulations establishing the criteria for determining when a nuclear facility or part of a nuclear facility may be permanently shut down.

Clause 53 deals with the decommissioning plan. This *clause* requires an applicant for authorisation to construct and operate a nuclear facility to prepare a decommissioning plan at the design stage of the nuclear facility, for approval by the Authority.

Clause 54 specifies an authorised person's obligations during decommissioning. An authorised person is, for purposes of a decommissioning of that authorised person's facility, to submit to the Authority a decommissioning plan which is commensurate with the type and status of the facility and hazards that may be associated with its

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decommissioning; conduct a baseline survey of the site in an effective and timely manner; submit to the Authority for approval, new or untried methods for the decommissioning of the facility; and arrange for adequate financing at each stage of the decommissioning process including provisions for loss of life or personal injury up to thirty years from the date of decommissioning; among others.

Clause 55 obliges an applicant for authorisation to construct and operate a nuclear facility to ensure that adequate financial resources are available when needed to cover the costs associated with a safe decommissioning, including the management of the resulting waste during the operation of the facility.

Clause 56 prohibits the use of nuclear material for non-peaceful uses. The *clause* requires a person to use nuclear material exclusively for peaceful activity and in accordance with national and international treaties and legal instruments. The *clause*, among others, also prohibits a person from manufacturing, possessing, controlling or acquiring, directly or indirectly a nuclear weapon or other nuclear explosive device in the country, or receiving any assistance directly or indirectly in the manufacture of a nuclear weapon or other nuclear explosive device in the country.

Clause 57 deals with processing of radioactive materials resulting from mining and processing operations. Except where a person is authorised by the Authority, a person is prohibited from conducting a mining and processing operation that involves any material that could pose a health and safety risk from exposure to ionising radiation, including any exploration activity that involves a possible exposure to radiation; the siting, construction or operation of a mine or processing facility; the decommissioning or closure of a mine or processing facility; and radioactive waste management.

The Minerals Commission is to ensure that persons authorised under the Minerals and Mining Act, 2006 (Act 703) to engage in any of the activities listed are authorised in accordance with provisions of this Bill before commencing operations.

A contravention of this *clause* is an offence which attracts a fine of not less than one thousand penalty units and not more than two thousand five hundred penalty units or a term of imprisonment of not less than four years and not more than five years or to both the fine and the term of imprisonment when found guilty on summary conviction.

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Clause 58 requires an applicant for authorisation to conduct mining or to process activity that involves uranium or thorium ore from a site, to submit a copy of the mining lease to the Authority. The applicant is also to provide to the Authority, the site characteristics, including geology and mineralogy; the conceptual design of the mining or processing facility; proposed work activities, extraction techniques and types of equipment involved and security measures, among others.

The authorised person is responsible under *clause 59* for ensuring the safety and security of any mining and processing activity conducted pursuant to the relevant authorisation. The authorised person is to comply with relevant Regulations and authorisation conditions imposed by the Authority and is to notify the Authority of its intention to modify any activity or practice it is authorised to undertake, if the modifications could have significant implications for the safety and security of persons and the protection of the environment, but not implement those modifications until the notice is received and the modifications approved by the Authority.

Clause 60 allows the Authority to consider installations of one operator located at the same site as a single nuclear installation for purposes of *clause 62* to *68* which deals with liability for nuclear damage.

Clause 61 applies *clause 62* to *68* to a person without discrimination on the basis of nationality, domicile or residence.

Clause 62 states the liability of the operator. Subject to other provisions of the Bill, the operator of a nuclear installation is made liable for nuclear damage, if it is proved that the damage has been caused by a nuclear incident at the nuclear installation of that operator; or involving nuclear material coming from or originating from the installation of that operator. An operator who was last authorised to possess a particular nuclear material is liable for nuclear damage caused by that nuclear material if the nuclear material is stolen, lost or abandoned. The liability for nuclear damage shall apply to nuclear damage wherever suffered.

Clause 63 deals with liability for nuclear damage that occurs during the transportation of a nuclear material and *clause 64* states the minimum liability for nuclear damage to be borne by an operator.

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Clause 65 requires an operator of a nuclear installation to be insured against the operator's liability for nuclear damage when the damage is proved to have been caused by the nuclear installation of the operator. The Authority in consultation with the National Insurance Commission, is to set the terms and conditions of an insurance policy covering liability for nuclear damage. An insurer is not to insure an operator against liability for nuclear damage, unless the operator possesses an authorisation issued by the Authority, authorising the operator to operate that installation.

Clause 66 states that the nature, form and extent of compensation that may be given to persons who have suffered nuclear damage as well as the equitable distribution of the compensation is to be in accordance with law and as ordered by a court of competent jurisdiction.

Clause 67 specifies the limitation period on a person's right to compensation for nuclear damage. An action to establish a claim may be brought within 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, but in any case not more than thirty years after the incident causing the damage. An action may also be brought thirty years from the date of the nuclear incident, in the case of loss of life or personal injury; or ten years from the date of the nuclear incident, in the case of any other form of nuclear damage. Also a person who claims to have suffered nuclear damage and who has submitted a claim for compensation which is not barred by this Act may subject to the rules of court, amend the claim to take into account any aggravation of the damage, even after the expiration of that period if a final judgment in respect of the claim has not been entered.

Clause 68 confers on the High Court, jurisdiction in respect of matters for compensation for nuclear damage caused by a nuclear incident occurring within the country or within the exclusive economic zone of the country. Under this *clause*, a person who has a right to compensation for nuclear damage is permitted to commence an action for compensation against a liable operator or directly against the insurer.

Clause 69 specifies exceptions to nuclear liability. An operator of a nuclear installation is not liable for nuclear damage that is proved to be directly caused by any armed conflict, hostility, civil war or insurrection,

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or liable for nuclear damage caused to the nuclear installation itself or any other nuclear installation, including a nuclear installation under construction on the site where the installation is located. An operator is also not liable for nuclear damage to any property on the same site which is used or is to be used in connection with a nuclear installation. Furthermore an operator is not liable for nuclear damage if the damage suffered by an individual is a result of an act done by that individual with an intent to cause mischief.

Where the operator proves that the nuclear damage resulted wholly or partly either from the gross negligence of the person suffering the damage or from an act or omission of the person done with intent to cause damage, the operator may be relieved, wholly or partly, from the obligation to pay compensation in respect of the damage suffered by that person.

Clause 70 requires the High Court to recognise and enforce the final judgment given by a foreign court of competent jurisdiction awarding compensation for nuclear damage as if it were a judgment of the High Court. The exceptions to this requirement is where the judgment was obtained by fraud or the party against whom the judgment was pronounced was not given a fair opportunity to present the case of that party; or the judgment is contrary to the public policy of the country or is not in accord with fundamental standards of justice.

Clause 71 allows the Authority to make Regulations to establish a graded levying system for minimum compensation for nuclear damage arising from an authorised activity or practice, and also for the management and permanent disposal of radioactive waste.

Clause 72 requires the Authority to appoint inspectors and analysts to verify and analyse practices and nuclear installations authorised or proposed to be authorised. The Authority is to issue an inspector or analyst with an identification card establishing the credence and work specialty of that inspector or analyst.

Clause 73 specifies the powers of an inspector and an analyst. An inspector or an analyst may, at any time during normal working hours of a nuclear installation or as may be determined by the Authority, enter any premises, vehicle, ship or aircraft without hindrance and with any equipment required by the inspector for the performance of the inspector's duty.

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An inspector or an analyst may also carry out tests and take samples, measurements and photographs of each facility visited; verify compliance of each operator with this Act and the Regulations; investigate an incident or accident involving radiation sources, nuclear materials and any other radioactive materials and provide the Authority with any requested assistance in the performance of its functions.

Clause 74 requires an inspector to submit to the Authority a report on an inspection or investigation conducted for appropriate action. An inspector is to record in both electronic and hard copies, any observation made during an inspection conducted and make a copy of the record available to the authorised person.

Clause 75 allows the Authority to make an order for a temporary cessation of activities, in the case of an imminent or actual hazard to the public or the environment. The Authority is to order an immediate cessation of the activities of an operator when a situation for which the operator is responsible poses an imminent safety or security hazard to humans and the environment, and is also to ensure that the operator resolves the safety and security concerns.

The Authority is also to order the operator to rectify a breach or any unsafe condition that might have resulted from a nuclear or radioactive material released into the environment, and is also to order an immediate cessation of operations if the unsafe condition persists. The Authority may also modify, suspend or revoke an authorisation. Also the Authority is to indemnify an inspector against a liability incurred in the course of discharging a duty as inspector.

The Authority is required under *clause 76* to issue a warning notice to an authorised person who contravenes a minor safety or security requirement or procedure and shall prescribe in the notice the remedial action to be taken by that person within a time specified in the notice.

Clause 77 makes it an offence for a person who knowingly makes a false or misleading statement to the Authority, or obstructs an officer, an analyst or an inspector of the Authority in the exercise of the functions of the officer, analyst or inspector and is liable on summary conviction to a fine of not less than two thousand penalty units and not more than five thousand penalty units or to a term of imprisonment of not less than four years and not more than ten years or to both the fine and the term of imprisonment.

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Furthermore a person who carries on an activity or practice without authorisation or who is found in possession of nuclear material or a radiation source without authorisation commits an offence and is liable on summary conviction to a fine of not less than five thousand penalty units and not more than ten thousand penalty units or to a term of imprisonment of not less than ten years and not more than twenty years or to both the fine and the term of imprisonment. The Authority shall also confiscate and properly dispose of a nuclear material or radiation source that a person possesses within the country without authorisation, at the cost of the person found in possession of that nuclear material or radioactive source.

Clause 78 deals with the handling of radioactive and nuclear materials and devices. *Subclause (1)* makes it an offence for a person to receive, transfer, alter or dispose of a radioactive material or device, or a nuclear material or device, without authorisation, either with intent to cause death or bodily injury to a person or substantial damage to property or the environment; or which causes or is likely to cause death or bodily injury to a person, or substantial damage to property or the environment. A person who contravenes this *subclause* is liable on summary conviction to a fine of not more than ten thousand penalty units or to a term of imprisonment of not more than ten years or to both the fine and the term of imprisonment.

In addition, a person commits an offence if that person, steals a radioactive or nuclear material, or embezzles or fraudulently obtains a radioactive material or nuclear material, and is liable on summary conviction to a fine of not less than five thousand penalty units and not more than seven thousand five hundred penalty units or to a term of imprisonment of not less than ten years and not more than fifteen years or to both the fine and the term of imprisonment. Under *subclause (3)*, a person commits an offence if the person demands a radioactive material or device or nuclear material or device from another person by use of threat, force or any other form of intimidation under circumstances which indicate the imminence of the threat.

Clause 79 makes it an offence for a person to compel another person, a State or an international organisation, by a threat or by making use of a threat, to use radioactive material or device unlawfully, or to use nuclear material or device unlawfully, or to do or refrain from doing any act.

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Clause 80 creates offences that relate to nuclear facilities. *Subclause (1)* makes it an offence if a person damages a nuclear facility by interfering with the operation of that facility with the knowledge that the damage is likely to cause death or bodily injury, or substantial damage to property or the environment; or does an act directed at a nuclear facility and in a manner that results in the release of radioactive material, or risks the release of radioactive material, with the intent that the act will cause death or bodily injury or substantial damage to property or the environment.

For contravening *subclause (1)*, a person is liable on summary conviction to a fine of not less than five thousand penalty units and not more than seven thousand five hundred penalty units or a term of imprisonment of not less than ten years and not more than fifteen years or to both the fine and the term of imprisonment, (*subclause (2)*).

A person who demands access to a nuclear facility by use of threat, or by use of force, or by use of any other form of intimidation under circumstances which indicate the credibility of the threat, commits an offence and is liable on summary conviction to a fine of not more than five thousand penalty units or to a term of imprisonment of not more than three years or to both the fine and the term of imprisonment (*subclause (3)*). Under *subclause (4)*, a person commits an offence if that person engages in an act to sabotage a facility by use of radioactive material or device, or nuclear material or device. A person who contravenes *subclause (4)* is liable on summary conviction to a fine of five thousand penalty units or to a term of imprisonment of not more than five years or to both the fine and the term of imprisonment.

Clause 81 allows a person aggrieved by a decision or measure taken by an inspector or analyst in a report submitted to the Authority under *clause 77(2)* to appeal to the Board. A pending appeal against a decision or a measure taken by an inspector or analyst shall, until the appeal is disposed of, not operate as a stay of that decision or measure.

Clause 82 is on complaints procedure. A person aggrieved by a decision or action of an inspector, an analyst or other employee other than the Director-General of the Authority may, submit a complaint in writing to the Director-General of the Authority. The complaint is to be submitted

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to the Board within thirty days from the date the complainant becomes aware of the decision or action to which the complaint relates, and the complaint is to contain the issues objected to and also have attached to it, a copy of the decision objected to and any relevant document for consideration and determination of the complaint.

Clause 83 deals with the appointment of a Complaints Panel. The Board is to appoint a panel within fourteen days of receipt of a complaint. The composition of the panel is provided for under this *clause*. Each panel member is to submit a written statement of disclosure of interest or otherwise in a matter being considered by the panel.

Clause 84 mandates the Board to refer a complaint to the panel, which shall give a fair hearing to the parties concerned. *Subclause (2)* requires the panel to record and document its proceedings. The panel is to make a recommendation after hearing the parties and submit the recommendation to the Board stating the reasons for the recommendation (*subclause (3)*). Also the panel is to submit the recommendation referred to in *subclause (3)* to the Board within sixty days from the date the complaint is referred to the panel, (*subclause (4)*).

The Board is allowed under *subclause (5)* to accept the recommendation of the panel or proceed to take its own decision in the interest of the nation, and shall give reasons for either accepting the recommendation or taking its own decision. The recommendation of the panel is to be recorded and documented, and the panel is to cause copies of the record of proceedings and recommendations to be sent to the Board, (*subclauses (6) and (7)*).

Clause 85 allows a person aggrieved by a decision of the Board to appeal to the High Court and the proceedings at the Court are to be *in camera*.

Clause 86 provides for funds of the Authority which include moneys appropriated by Parliament, for the Authority loans, loan guarantees and grants; fees and charges due to the Authority from services rendered by or through the Authority donations, gifts and any other moneys that the Minister responsible for Finance may approve.

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Clause 87 deals with the retention and utilisation of internally-generated funds of the Authority. *Clause 88* deals with the annual budget of the Authority. The Authority is to submit to the Minister, an annual budget in respect of the ensuing financial year, not later than three months before the end of each financial year.

Clause 89 is on accounts and audit. The Board is to keep books of accounts and proper records in relation to them in a form approved by the Auditor-General. Furthermore, the Board is to submit the accounts of the Authority to the Auditor-General for audit within three months after the end of the financial year, and the Auditor-General is to audit the accounts and make a report on the audited accounts within three months after receipt of the accounts and forward a copy of the audit report to the Minister.

Clause 90 deals with annual report and other reports. The Board is to submit to the Minister an annual report covering the activities and the operations of the Authority for the year to which the report relates, within one month after receipt of the audit report.

Clause 91 empowers the Minister to make Regulations on the advice of the Board for the efficient and effective implementation of provisions of this Bill, and in particular for the matters specified under (*subclause* (2)). Some of the matters in respect of which Regulations may be enacted are the safety and security of nuclear materials and facilities, and radiation-emitting devices; the types of authorisation and their duration, renewal, suspension, modification and revocation; the programme and procedure of inspection and the criteria for the categorisation of radioactive sources.

Other matters for which Regulations may be enacted include providing for a list of levies and authorisation fees for categories of activities and practices; providing penalties for non-compliance with authorisation conditions in addition to prohibitions and confiscation; providing for the control of illicit trafficking of nuclear material and the implementation of other international conventions which related to nuclear technology and to which Ghana is signatory and has ratified.

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Clause 92 allows the Authority to develop guidelines, standards and procedures on notification, authorisation and exemptions of practices and activities and inspection and reporting procedures, among others. The Authority is to cause the guidelines, standards and procedures to be published in the *Gazette*.

Clause 93 is on interpretation and *clause 94* deals with revocations and savings. *Clause 95* deals with transitional provisions and consequential amendments are dealt with under *clause 96*.

DR. JOE OTENG-ADJEI

Minister responsible for Environment, Science, Technology and Innovation

Date: 1st April, 2014.