Executive Regulations
Decree-Law No. 31 of 2002
About radiation protection

Part One
Definitions and scope of application

Chapter One
Definitions

Article (1)

In the application of the provisions of this regulation, the following words and expressions shall have the meanings assigned to each of them, unless the context requires another meaning:

The Council : The Supreme Council for the Environment and Natural Reserves.

The President : The Chairman of the Council.

Secretary General : Secretary General of the Council.

General Secretariat : The General Secretariat of the Council

Committee : Radiation Protection Committee.

Law : Decree-Law No. 31 of 2002 regarding radiation protection.

Radiation : Ionizing and non-ionizing radiation.

Ionizing radiation : All charged or neutral particles or electromagnetic radiation that lead to the ionization of matter directly or indirectly when it falls on it, and includes alpha and beta particles, neutrons, electrons, gamma radiation and X-rays.

Non-ionizing radiation : All types of radiation that do not directly or indirectly ionize a substance when it falls on it, such as laser beams.

Radiation Protection Inspector : The person authorized by the President, and

upon the recommendation of the Secretary-General, to undertake the inspection of institutions and establishments that possess radioactive materials or sources or radioactive devices, or work in the field of radiation in any way.

Radiation Protection Officer : The qualified technician appointed by the competent authority or department or the employer in the institutions and establishments that use radioactive sources, to supervise the implementation of the prescribed radiation protection systems, and to assist in providing advice in this field.

Radiation worker : A person who works permanently in a field that includes ionizing radiation, or performs work that requires his presence in a place where radioactive sources are used..

Radioactive source : Any physical entity that may cause radiation exposure, due to its emission of a type of ionizing or non-ionizing radiation, or due to the release or leakage of radioactive materials.

Radioactive material : The material from which ionizing radiation can be emitted, such as alpha or beta particles, gamma radiation, or neutrons.

Radiation source device : A device that does not contain any radioactive substance, but rather processes are carried out to obtain ionizing or non-ionizing radiation.

Radiation Accident : Any type of accident associated with radiation hazards that threaten public health and safety and lead to actual or potential exposures.

Practice : Any activity or group of interrelated activities with a single objective, in which one or more radioactive sources are used, and their conduct exposes humans or the environment to risks of ionizing radiation.

Licensing : Permission granted by the council or the competent authority based on a safety assessment that is accompanied by specific requirements and conditions that the licensee is bound by.

Licensee : Any natural or legal person who owns radioactive sources or practices radiation, while obtaining the necessary licenses.

Registration : A form of authorization for practices involving little or medium risks, where the natural or legal person responsible for the practice has prepared and submitted to the Board, as appropriate, an assessment of the safety of facilities and equipment, and the requirements

	for the safety assessment and the conditions applicable to the practice are less than those necessary for licensing.
Registrant	: A natural or legal person who has been granted a record of a radioactive practice or possession of a radioactive source that involves little or medium risks.
Controlled area	: the workplace in which the worker in the field of radiation may receive radiation exposure in excess of three tenths (0.3) of the equivalent dose limit.
Limit	: The limit used for the purposes of radiation protection, which is a value for a specific quantity used for the purposes of radiation exposure and must not be exceeded.
Waste	: Every solid, liquid or gaseous substance resulting from working or handling radioactive materials, and containing radioactive isotopes or contaminated with them, with radioactive concentrations or activities greater than the permissible levels, and is not expected to have any use.
Description	: A statement of the physical, chemical and radiological properties of the waste, in order to determine the extent of the need for modification, treatment and

conditioning processes, or their suitability for subsequent handling, treatment and storage.

Solid Waste : Every solid object that results from radioactive material or comes into contact with it during work and operation in laboratories, laboratories and others, which leads to its contamination with radioactive material that is difficult to remove as it becomes unfit for repeated use.

Liquid waste : Every liquid based on water or organic or inorganic solvents that contains certain concentrations of radioactive materials as a result of their various uses and applications.

Gaseous waste : The gases and vapors containing radioactive isotopes that accumulate as a result of the treatment of burning nuclear fuel, or that rise during the treatment of nuclear raw materials, as well as subliminal radioactive materials such as radioactive iodine and uranium halogens or any other radioactive gases or fumes that are emitted as a result of the work.

Permit levels : The set of values determined by the committee, which is expressed in terms of radioactivity concentrations, total radioactivity, or both

quantities, at which or without which radioactive sources may be released from being subject to regulatory control.

Prepare : The operations that produce a parcel of waste suitable for handling, transportation, storage or disposal.

Waste formula : Waste in its physical or chemical form after treatment and conditioning, which results in a solid product, before packaging, and is composed of waste expelling compounds.

Waste container : The container in which waste formulas are placed for handling, transportation, storage or final disposal of waste, and it is one of the waste ejection vehicles.

Disposal : placing waste in a specific approved facility (ie in a cemetery near the surface or in geological formations) without intending to retrieve it. Disposal may also include the approved direct discharge of the effluents into the environment with their subsequent dissemination.

Monitoring : The measurement of radiation or radioactive isotopes for reasons related to evaluation or monitoring of radiation exposure and the interpretation of such measurements. Monitoring may be continuous or discontinuous.

Quality Control : All planned and regular work necessary to provide confidence that any subject, process or service, satisfies the requirements specified in terms of quality, for example those specified in the licence.

Cemetery : A facility where waste is placed for disposal and is not recovered from it in the future.

Storage : Placing the radioactive waste in an appropriate facility that provides isolation, environmental protection, control or monitoring, with the intention of recovering such waste to allow, treat, prepare or dispose of it at a late date.

Treatment : The processes by which the characteristics of the waste are changed, and it is intended to increase the degree of safety or economic benefits with the aim of reducing the volume or removing radioactive isotopes from the waste or changing the composition.

Waste Inventory Record : Detailed records of all items kept by the operator or the council in accordance with these regulations, which contain data such as the physical quantity and radioactivity of the waste, the content of radioactive isotopes and other characteristics.

Waste Generator : Any natural or legal person engaged in activities that generate radioactive waste.

Waste Management : All administrative and operational activities involved in the handling, treatment, preparation, storage and disposal of waste. Transportation is taken into account.

Waste parcel : the preparation product that includes the waste formula and any container or containers and internal barriers, such as absorbent and lining materials, and prepared according to the requirements of handling, transportation, storage and disposal.

Chapter II
Field of application

Article (2)

The provisions of this regulation shall apply to all practices that involve or may involve exposure to ionizing radiation or radioactive sources, including the following:

1- Producing sources, extracting and treating radioactive materials, and using radiation or radioactive materials for medical, industrial, agricultural purposes, training, scientific research, or others. This includes any activities related to that use that involve or may involve exposure to radiation.

2- Practices involving the presence of natural radioactive sources that lead to an increase in doses over the doses specified for workers or the general public, and cannot be ignored from the perspective of radiation protection.

3- Any other practice determined by the Council, which involves a risk arising from:

a - professional exposures.

b- Medical exposures.
C - Exposing the general public .
D- Possible exposures .
E - Chronic exposures.
And - emergency exposures.
4- Intervention in the event of a radiological emergency or in the event of chronic exposure.
The following are excluded from the application of the provisions of this regulation:
1 - Exposures caused by the presence of a radioactive potassium 40 isotope in the body.
2 - cosmic radiation on the Earth's surface.
3 - Radiation emanating from radioactive materials in raw materials in their natural concentration.
4 - Any other sources that the council may specify.

Article (3)

Exemptions:

The council may, upon a request submitted to it and after the approval of the committee, grant a practice or source that falls within the practice an exemption from the requirements contained in these regulations if the following conditions are met:
1- The radiation hazards arising from the practice or the source to individuals shall be minimal to the extent that they are not significant from a control point of view.
2 - That the cumulative radioactive effect of the practice or the exempted source be so small that it does not call for a regulatory control.
3- The exempted practice and resources shall be self-secured.

Article (4)

Prevention principles:

No practice or sources within the scope of a practice may be licensed unless the Board considers that it is justified, such as the possibility that it will result in a benefit to the exposed individuals or to society sufficient to compensate for the radiation damage it may cause, taking into account social, economic, health and other relevant factors.

The following practices are considered unjustified, if they lead to an increase in exposure by intentionally adding radioactive materials or activating the goods or products associated with them:

1- Practices that include food, beverages, cosmetics, or any other commodity or product intended for human use, by mouth, inhalation, through the skin, or topical use.

2 - Practices that lead to an unwise use of radiation or radioactive materials in some goods or products, such as children's toys, jewelry and personal cosmetics.

Article (5)

Dosage limits:

Ordinary exposures to individuals shall be restricted that the total total effective dose or total equivalent dose of any exposed organ or tissue, resulting from the accumulation of doses from all previous exposures, does not exceed the dose limits established by the Committee.

Dose limits do not apply to medical exposures resulting from authorized practices.

Article (6)

Optimal prevention and safety:

With the exception of therapeutic medical exposures, optimal prevention and safety must be achieved, by keeping the individual dose, number of exposed persons, and the probability of exposure to a reasonably low level, taking into account economic and social factors.

In all cases, the following principles must be followed to achieve optimal protection and safety:

1- Determining the best measures for prevention and safety in the prevailing circumstances.

2- Determining the necessary criteria to limit exposures, prevent accidents, and mitigate their consequences if they occur.

3- Fulfillment of safety and prevention standards when adopting engineering procedures and controls.

4 - Benefit from the gained experiences and developments.

Chapter Two
Licensing and Inspection

chapter one
License

Article (7)

Basic commitment:

It is not permissible, without a license from the Board, to conduct any of the following acts and practices:

1- Importing, exporting, possessing, handling or transporting radioactive materials.

2- Applying, introducing, conducting, modifying, stopping or terminating any works or practices involving radioactive materials, sources or radioactive devices.

3- Designing, manufacturing, producing, possessing, owning, importing, exporting, buying, selling, delivering, receiving, lending, borrowing, operating, discharging or disposing of any radioactive materials, sources or radiation-emitting devices.

4- Choosing any site for practicing any work that includes a radioactive substance or source or a device that emits radiation, or constructing any buildings related to this practice or work, or making any modifications to the aforementioned places or buildings.

5- Working with ionizing or non-ionizing radiation, or in the field of expertise and responsibility for radiation protection.

Article (8)

License request :

Every natural or legal person who intends to carry out any of the works, practices or activities stipulated in Article (7) of these Regulations, must submit to the Council an application on the form prepared for this, to obtain the necessary license to operate, practice or possess the radioactive source before commencing with None of that.

The request must be accompanied by a statement of the radioactive sources that he intends to use, and all the data and information necessary to support his request and which confirm his commitment to the rules related to radiation protection.

The Council determines the practices for which reporting is the only condition, and which can be initiated immediately after the notification.

Article (9)

License types:

In the field of radiation protection, the Council shall issue the following licenses:

1- Personal licensing of individuals to practice work in the various fields of radiation.

2- Institutional licensing, including licensing of the site, facility and practice.

The council determines the term of each type of license according to the practices, the nature of the radioactive sources used and the expected risks.

Article (10)

Personal license:

The personal license shall be for natural persons, and shall include permitting them to practice radiological work for professional purposes such as medicine, engineering, pharmacy, industry, research and other professions and areas of functional work within which radiological work is included, including transportation, storage and handling operations arising from commercial operations.

Article (11)

Institutional License:

The institutional license is for legal persons, and includes the license to possess, use, trade and transport radioactive sources and radioactive devices, or establish, own, operate and manage nuclear or radiation facilities and facilities.

Institutional licensing is carried out in three stages as follows:

1- Website License:

In it, the place to be used for the purposes of owning or manufacturing any source of radiation, or establishing any nuclear or radiological facility, such as nuclear research reactors, nuclear power plants, gamma and electronic radiators (beta rays), and nuclear fuel factories, is authorized. Accelerators, nuclear research laboratories, radiopharmaceutical factories and radioactive sources. The approval of the appropriate place for radiological diagnosis or treatment and nuclear medicine facilities shall be in coordination with the Ministry of Public Health with regard to the requirements and conditions of licensing.

2- Licensing the facility:

In it, nuclear or radiological facilities and facilities that are established or leased to practice any type of radioactive work are authorized, such as research laboratories in which radioactive sources or radioactive devices are used, radiopharmaceutical laboratories, clinics and hospitals where radioactive materials or radiology devices are used, accelerators and radiators. Nuclear reactors, radioactive materials storage places, radioactive waste facilities or banks.

The licensing of health facilities such as clinics and hospitals in which radioactive materials or sources are used shall be in coordination with the Ministry of Health with regard to the requirements and conditions of licensing.

3- License to practice:

It permits the operation or use of any nuclear or radiological facility, or any radioactive material, or ray device, or benefiting from it in any way, such as providing inspection services without damage, the use of ionizing radiation for industrial purposes, and the operation of accelerators, reactors, factories, mines, laboratories and laboratories that are used In it or make use of radioactive materials or radioactive devices.

Licensing for activities related to medical radiological applications shall be granted by the Ministry of Public Health, in coordination with the Council regarding the requirements and conditions of the license.

Article (12)

Registration:

The Board may be satisfied with registering some practices that involve little or medium risks when the following conditions are met:

1- Safety to a large extent through the design of facilities and equipment.
2- Ease of implementation of operating procedures.
3- Minimal safety training is required.
4- The operating records contain a few security problems.
5- Operations do not differ substantially.

Article (13)

Licensing of major nuclear facilities:

The procedures for licensing major nuclear facilities, such as nuclear research reactors, nuclear power plants, nuclear fuel factories, and the like, shall be issued by a decision of the President .

Article (14)

Other licensing steps and procedures:

The procedures for obtaining the licenses referred to in Article (9) of these Regulations shall be as follows:

1- **Personal license:**

The applicant for a license shall apply to the General Secretariat on the form prepared for this purpose, to obtain a personal license to practice radiological work.

The General Secretariat shall study the application and the documents attached to it, verify the conditions prescribed for the licensing, and issue the appropriate recommendation to the Secretary-General in this regard, who issues the licence within a month at most from the date of referring the application to him.

2- **Institutional licensing** :

A- Site License:

An institution wishing to possess and use radioactive facilities or radioactive sources shall submit an application to the General Secretariat on the form prepared for this purpose, indicating the type of work, the type of radioactive sources or radioactive devices and facilities to be established, their geographical locations, and their purpose, and a detailed feasibility study for the project if requested by the Secretariat. general it.

The General Secretariat shall study the application and the attached documents, verify the conditions prescribed for the licensing, and issue the appropriate recommendation to the Secretary-General in this regard, who issues the licence within a month at most from the date of referring the application to him.

B- Establishment License :

The Corporation shall submit an application to the General Secretariat on the form prepared for this purpose, after obtaining the site license, to obtain a license to establish a new radioactive facility, or to permit the use of radioactive materials or radioactive sources or both together in existing facilities, together with all information, documents and engineering designs for the project.

The General Secretariat shall study the application and the attached documents, verify the conditions prescribed for the licensing, and issue the appropriate recommendation to the Secretary-General in this regard, who issues the licence within a month at most from the date of referring the application to him.

C- License to practice :

The Corporation shall submit an application to the General Secretariat on the form prepared for this purpose, after obtaining the site license and facility licence, and after completing the building and construction works and installing devices, to obtain a license to use these facilities and radioactive materials, and to operate the radioactive devices mentioned in the license application or those that were developed later and agreed General Secretariat to add.

The General Secretariat shall study the application and the documents attached to it, verify the conditions prescribed for the licensing, including conducting the necessary examinations and measurements that it deems appropriate, and issue the appropriate recommendation to the Secretary-General in this regard, who issues the final license within a month at most from the date of referring the application to him in its final form. The refusal shall be justified, and the concerned parties shall be notified thereof.

In all cases, the General Secretariat has the right to return the licensing applications submitted to it to the persons or institutions to complete the deficiencies or make the amendments or additions it deems necessary before submitting a recommendation to the Secretary General to grant the licence.

Article (15)

Grievance:

A natural or legal person whose license has been refused in accordance with the provisions of the previous article may appeal the decision to the Secretary General within one month of being notified of the refusal, and the grievance must be decided upon, after taking the opinion of the committee, within one month of receiving the grievance, and the decision of the Secretary General in this regard shall be Permanently.

Article (16)

Deadlines for applying for a license:

Applications for licenses provided for in this chapter shall be submitted within the following periods:

1- **Personal license** :

Within a period of not less than two weeks before the date of the applicant's desire to start work.

2- **Website License** :

Three months before the date on which the institution wishes to obtain that license.

3- **Licensing the facility** :

A period before the date that the institution wants to start construction and installation, ranging from one month for small facilities to four months for large facilities.

4- License to practice :

Two months before the date on which the institution wishes to start benefiting from and using the facility and operating the radiation devices located there.

5- License to import, export or transport radioactive materials:

At least one week before the required activity for radioactive materials with a long half-life and used for non-medical purposes.

6- License to import or transport radioactive materials with short half-life and used for medical purposes:

At least one day before receiving it. In cases of extreme necessity, the application can be submitted on the same day the institution expects to receive the radioactive material.

Article (17)

Documents required to obtain a license:

The license applicant is obligated to submit his application on the form prepared for this purpose, accompanied by the following documents:

1- For a personal license:

A- Curriculum vitae of the license applicant, including qualification, career progression, and experience.

b- A certified medical report on the health status and health history of the license applicant.

C - A report on the qualification processes (studies - courses - workshops) that the license applicant has passed to work in the field in which he wishes to obtain a license.

d- Any other documents that the General Secretariat deems necessary to complete and verify the information.

2- For the site license:

A- A report on the nature and volume of radioactive work to be carried out at the site to be licensed.

b- A report on the site in terms of the geological structure, potential natural resources, land plans and the location of the facility in these plans, and a preliminary engineering plan for the facility.
C- A report on the volume of labor expected to be employed at the site, their specializations, qualifications and experience.
D- A report on the auxiliary services and their availability, emergency plans and physical protection for the facility to be established on the site.

3- Regarding the facility licensing:

A- A detailed report on the facility to be established, including engineering plans and designs, and places of use and storage of radioactive devices and materials.
B- A report on the devices and materials to be used in the facility and their compliance with the principles of radiation protection and the technical specifications determined by the Council.
C- A report on the radiation protection systems and needs in the facility.
D- A report on the nature and volume of radioactive waste expected in the facility, its chemical composition and physical condition, and methods of handling and disposal.

4- For a license to practice:

Without prejudice to the issuance by the Ministry of Public Health of a license to practice for activities related to medical radiological applications in coordination with the Council, the documents required for this license and other licenses to practice, are as follows:
A- A detailed report on the activity required to be practiced in the facility, such as operation, management, employment, trading, trading, industry, research and others.
b- A detailed report on the size and type of the radioactive level of the radioactive materials and sources that will be used.
C- A report on the impact of the practice to be licensed on the environment.
D- A report on the persons who will carry out radiological work.
e- A report on the radiation protection system and personal and environmental radiation dosimetry services.
F- A report on the emergency plans of the facility in which the exercise will take place.

Article (18)

Cancellation or modification of the license:

The license is canceled in the following cases:
1- If it appears that the licensee has provided incorrect data or resorted to illegal methods, the issuance of the license shall result.
2- If the licensee violates any of the conditions stipulated in the law, these regulations or the decisions issued pursuant thereto.
3- If the licensee is afflicted with a disease that renders him unable to work with ionizing radiation.
4- If it becomes clear that there is a danger to the environment, or to the licensee, or his employees, or the general public, as a result of their exposure to radiation.
5- If the licensee violates the conditions stipulated in the license.

The Council may approve the amendment of the license, if the nature of the work or the type of licensed practice changes, or if the place of work specified in the license application changes.

Article (19)

Reporting of new cases:

The licensee is obligated to notify the Board in advance of the following:
1- The date of commencing the experiments that precede the operation of the licensed facility, if these experiments use ionizing radiation.
2- The date of starting to operate the licensed facility or carrying out a practice that uses radioactive sources.
3−Any change in working conditions, and any work cessation.

Article (20)

Expiry of resource possession:

No person authorized to possess radioactive sources may dispose of them permanently, transfer them to another person or lend them to him, without obtaining a license to do so from the Council.

Article (21)

Requirements for work licenses in the fields of radiological work:

The President, based on a recommendation from the committee, issues the requirements for licensing workers in the various fields of radiological work.

Chapter II
inspection
Article (22)

Inspect facilities and see information:

Every natural or legal person who possesses a radioactive source must allow the judicial officers and those charged with inspecting the facilities in which these sources are dealt with in accordance with the provision of Article (16) of the law, in order to obtain information on the extent to which that person complies with the provisions of the law and this regulation. and executive decisions necessary to implement the law and for the requirements of prevention and safety.

Also, a person licensed to practice dealing with a radioactive source in accordance with the provisions of these Regulations shall provide the Council with information and records related to prevention and safety, especially with regard to storage and use of the source.

Article (23)

Responsibilities and dates of the inspection:

Radiation protection inspectors in the council referred to in the previous article may carry out inspection tours without prior notice to anyone who owns any radioactive source or practices radiation, to verify the availability of radiation protection precautions and systems stipulated in the law or issued by the committee, provided that they observe safety conditions. specific to each facility.

The inspection tours shall be during the official working hours of each facility, within the areas of work with radiation and the requirements for its protection, and for the following purposes:

1- The new license.
2- Periodic inspections.
3- In response to a request from the concerned institution or one of its employees.
4- Radiological emergencies and accidents.
5- Verify that the necessary license has been obtained and control unauthorized cases.
6- Ensuring the presence of radiation protection precautions, records and other disclosures.
7- Any other cases that the council deems relevant to the implementation of the provisions of the law and these regulations.

Article (24)

Inspection instructions:

Instructions for inspection of persons and establishments shall be issued by a decision of the president that includes the conditions to be met

by the inspector, the duties and powers of the inspectors, and the inspection methods.

Chapter Three
Prevention of radiation exposure
chapter one
Prevention of occupational exposures

Article (25)

General Provisions:

No person may be employed in the fields of work with ionizing radiation, or any other work related thereto, except after verifying his scientific and technical qualifications, and medically examining him to verify his health fitness, in accordance with the conditions set by the Council.

It is not permissible to expose a pregnant woman to radiation doses that exceed the limits for pregnant women.

The licensee shall provide appropriate training for workers that is commensurate with the magnitude of the potential radiological risks, effective professional radiological surveillance, and medical surveillance.

The working hours in the areas that contain radiation exposure shall not exceed the normal working hours, and they may not be increased except for the utmost necessity, provided that this does not lead to exceeding the limits of occupational exposure..

Article (26)

Radiological work areas:

The licensee shall divide the areas surrounding radiation devices or radioactive sources into two categories: control areas and supervision areas. The licensee shall conduct a periodic review of working conditions in order to determine what may be necessary to modify the protective measures or safety arrangements, including the boundaries of control areas and supervision areas. These areas are classified according to the following:

1- Monitoring areas :

Special areas for control shall be established in places where workers may be exposed to occupational doses that may exceed three tenths of the limits of any of the equivalent, effective or occupationally concomitant doses determined by the committee .

The licensee, with respect to these areas, shall comply with the following:

A- That the area be surrounded by fixed means , but in areas where the source is used intermittently or where the sources are moved from one place to another, the appropriate control area shall be designated, surrounded by barriers, and the times and periods of exposure shall be determined by appropriate means.

b- To install the approved warning signs and any other appropriate instructions at the likely points of approach to the monitored areas and in different locations suitable for their interior.

C- To take all professional protection and safety measures, including local rules and methods that are appropriate for each control area .

D- To monitor the approaches to the controlled areas by administrative means, such as entry permits, work permits, barriers and doors, and locks, and the intensity of control must be proportional to the nature of the potential risks , especially the provision of protective clothing and necessary equipment when needed.

2- Supervision areas :

The licensee shall designate supervision areas, which are areas where conditions of occupational exposure need to be kept under review, even if specific prevention measures and safety provisions are not normally required.

The licensee shall, taking into account the nature and extent of radiation hazards in the supervision areas, abide by the following:

(a) Draw the boundaries of these areas using appropriate means.

b- Placing approved signs at the appropriate entry points leading to them.

Article (27)

Special conditions of service conditions:

No person may be used or exposed in radioactive work conditions in which the annual radiation exposure is likely to exceed three tenths (0.3) the equivalent dose limit, if he is under the age of eighteen years, except for training purposes only and under the direct supervision of the licensee.

Nor shall any person be used, exposed, or trained in radioactive work conditions in which the annual radiation exposure is likely to exceed three tenths (0.3) the equivalent dose limit, if he is under sixteen years of age.

Article (28)

Pregnant women requirements:

Every working woman who may be exposed to radiation must inform the employee of her pregnancy as soon as she becomes aware of it.

The user shall take the necessary measures to transfer her to another appropriate job, if necessary, in order to ensure the fetus the same general level of protection required for members of the public.

Article (29)

Local rules for supervision:

In the matter of supervision, the licensee shall abide by the following rules:

1- Designating a person responsible for radiation protection to be called the radiation protection officer. The radiation protection officers shall be instructed by a decision of the President.

2- To establish, in cooperation with the radiation protection officer and consult with workers if necessary, the necessary local rules and procedures in writing and in a language understood by workers and the general public, and communicate these rules and procedures to those workers and other persons who may be affected by them.

3- Providing all workers with adequate information about the health risks resulting from their occupational exposure, whether it is normal or potential exposure, and providing them with adequate instructions and training in the areas of prevention and safety.

4- Awareness of female workers, whose nature of work requires them to enter the control or supervision areas, of the dangers surrounding the fetus as a result of the exposure of the pregnant woman, and the importance of the worker informing the licensee as soon as she becomes aware of the existence of a pregnancy.

5- Providing appropriate information, instructions and training for workers related to the emergency plan.

6- Maintaining records of the training received by each worker.

Article (30)

Dose limits for radiation exposure:

Radiation exposures of workers and the general public and in medical applications are monitored, so that they do not exceed the limits

set by the committee in light of technical studies and global rates in this field.

Article (31)

Workplace Monitoring:

The licensee shall prepare and implement a program for monitoring workplaces, and maintain its continuity, so as to achieve an adequate and adequate degree of protection and safety for workers, the public and the environment, and to achieve the following:

1- Evaluation of exposures in controlled and supervised areas.

2- Evaluation of radiation conditions in the work environment.

3- Review the classification of work areas.

The nature of the monitoring program must also depend on radiological conditions, pollution levels and expected variables, taking into account the following factors:

1- The type of measurements, such as the dose rate of different radiations, surface pollution, and the concentration of radioactive substances in the air.

2- The measurement methods used, and the name of the person carrying it out.

3- The reference levels approved by the competent authority, and the measures taken when they are exceeded.

Article (32)

Radiometric measurements:

Persons responsible for radiation protection must carry out the following measurements in each area, and document all results in special records:

1- Conducting a periodic routine survey to verify the correctness of the classification of the area .

2- Conducting measurements of the radiation exposure rates that accompany the operation of the device for all employees in the region who may be exposed to radiation doses.

3- Putting the means of measuring doses, such as those carried by workers, such as clearing sheets and films, in the workplace and taking their readings periodically.

Article (33)

individual observation:

Licensees and radiation protection officers must ensure that:

1- Every worker in a controlled area carries a measure of radiation doses, such as clarity, films, or others.
2- Every worker maintains this scale in a valid condition.
3- Every worker has been trained to use the scale and put it in the right place and in the right way.
4- The scale readings for all employees are taken at specific intervals and periodically, and the results are documented in special records.

Article (34)

Obligations of the licensee in the field of protection from occupational exposures:

The licensee is obligated to:

1- Treating people exposed to radiation doses that exceed the permissible limits approved by the Council, at its own expense, provided that the cases that require examination and treatment are determined by a special medical committee formed by the Minister of Public Health at the request of the Secretary-General.

In the event that a person, as a result of the negligence of the licensee, or his non-compliance with the rules of radiation protection, suffers a radiation injury that leads to his complete or partial disability or death, the provisions of the Labor Law shall apply, without prejudice to the application of other relevant laws.

2- Informing the Council or the Civil Defense Department by telephone, in the shortest possible period of time, upon the occurrence of any accident that led or may lead to the exposure of any person to a radiation dose exceeding the permissible dose limits, or when any source of ionizing radiation was lost or damaged, or Loss of control over it, with clarification of the details of the accident and a statement of the reasons that led to its occurrence, provided that this period does not exceed twenty hours from the occurrence of the accident, and that the telephone notification is followed by the written notification to the Council within a period not exceeding three days.

3- Putting appropriate warning drawings, signs or inscriptions for the monitored areas in an internationally recognized manner and according to the warning signs manual in radiological work issued by the council or any other signs decided by the council, in a clear and understandable way, to indicate the extent and nature of the exposure risk.

4- Establishing a physical supervision program in which the nature of the precautions to be taken to verify compliance with the instructions for determining doses, and to evaluate the effectiveness of the precautions taken, and to determine the extent of the necessary preventive precautions, in a manner commensurate with the magnitude of the expected risks.
5- Review the physical inspection and supervision periodically in light of the experiences and experiences gained, and when there is any fundamental modification to the nature, location, terms or conditions of the work stipulated in the license application, the licensee must inform the Council of that as soon as possible, and amend the radiation protection program in his institution as appropriate.
6- Establishing a program for medical supervision in the licensed institution to evaluate the health of its employees, and to verify the continuous compatibility between the interest of work and the health of the worker, and to provide the necessary information about it in cases of accidents and occupational diseases.
7- Medical supervision of the employees of the institution in accordance with the general principles of occupational medicine, taking into account the previous or current conditions of exposure of those workers to toxic chemicals, and any other physical conditions that involve health risks.
8- Not to use or continue to use any worker in a job that involves exposure to ionizing or non-ionizing radiation in a way that violates medical rules.
9- Verify that the professional medical examination is periodically conducted on the employees of his institution, as well as in the event of any injuries or occupational diseases for its employees.
10- Providing the appropriate conditions for the medical supervisor approved by the Council or from any other authority authorized for professional medical supervision, to carry out the work of supervision, and to provide the information he requests, including the job description details of any worker in the institution and his personal file.

Article (35)

Records:

The licensee is obligated to keep the following records:-
1- Records of radiology sources.
2- Records of the professional medical examination for the employees of the institution (a record for each worker), and the medical examination shall be through a medical center approved by the Council.

3- Records of accidents, whether related to people, devices or equipment.
4- Records of radiation exposure for radiation workers (a record for each worker).
The Council shall determine the forms necessary for these records.

The licensee shall be responsible for informing the Council of all these records, no later than one month after the end of the year, and these records must be sealed with the seal of the General Secretariat and the signature of the Secretary-General.

These records shall be of a confidential nature, and they must be organized and kept for a period of no less than thirty years, unless the General Secretariat decides otherwise.
In the event that the Corporation’s business ends before the expiry of a thirty-year period for any reason such as death, merger, dissolution, change of the nature of its work, or otherwise, these records shall be transferred to the Board.

The licensee must take into account that the record of radiation exposure to the worker includes the possibility of calculating the cumulative dose rate for a person at any time, and that the following information should be recorded in it:
1- The worker's previous radiological history, including the radiation doses he was exposed to from all previous practices.
2- The type of current work, the type of radiation that may be exposed as a result of the work, the classification of the region and the permissible limits for personal doses.
3- The rate of doses that the worker was exposed to at work in his current job.
4- Dosimeter readings carried by the worker, such as Al-Wadhahat, films, etc.
5- The cumulative monthly total of radiation doses received by the worker.
6- The results of the periodic medical examinations conducted for the worker.
7- The radiation status of the worker, i.e. the average total cumulative dose to the worker from all the radiological work he performed during his working life.

Article (36)

Radiation workers rights :

The worker in the field of radiation is granted an additional leave and a radiation hazard allowance, commensurate with the size and nature of the danger to which he is exposed, in accordance with the controls and categories issued by a decision of the Council of Ministers, based on a proposal by the Council after coordination with the concerned authorities in the country.

These advantages are not considered a substitute for providing all radiation protection measures for workers.

Article (37)

Exposure calendar:

The licensee undertakes to make the necessary arrangements for assessing the occupational exposure of the workers, and to verify that appropriate arrangements are taken with the qualified and competent dosimetry authorities in accordance with an appropriate quality control program.

Individual monitoring is carried out for each worker who normally works in a controlled area.

The evaluation in the supervision area may be based on the results of monitoring the workplace or monitoring individuals.

The nature and frequency of radiological monitoring should be commensurate with the evaluation of exposure levels and with possible changes to these values. The quality of the radiological monitoring measurements and calibration of the used equipment must also be done periodically.

The licensee shall identify the workers who may be exposed to indoor pollution, and provide them with the appropriate monitoring that achieves the effectiveness of protection and the correct evaluation of the internal exposure doses.

Article (38)

Personal protective equipment:

The licensee is obligated to ensure that workers are provided with appropriate and sufficient personal protective equipment, including, as appropriate, protective clothing, bulletproof aprons, gloves, protective body shields, and protective equipment for observation, provided that workers are familiarized with the protective characteristics that they provide.

It is also committed to minimizing reliance on personal protective equipment for protection and safety purposes during normal operations, by providing well-designed controls and appropriate working conditions.

Chapter II
Preventing medical exposures
Article (39)

Responsibilities:

The licensee must ensure the following:

A- Not to expose any patient to any medical radiation exposure for the purposes of diagnosis or treatment unless such exposure is prescribed by a medical practitioner.

2- The medical practitioner's commitment to achieve comprehensive prevention and safety for patients when describing and during medical radiation exposure.

3- The medical practitioner verifies that the medical exposure to patients is the minimum necessary to achieve the desired diagnostic objective.

4- The medical practitioner verifies that the appropriate equipment and devices are used.

5- Medical personnel and their assistants, as needed, provided that they are either health professionals or have received adequate training to adequately carry out the tasks assigned to them when undertaking the diagnostic or therapeutic procedures prescribed by the medical practitioner.

6- The requirements for calibration, dosimetry and quality assurance shall be set by a qualified expert in the field of medical physics or under his supervision when radiation is used in therapeutic aspects, including external irradiation therapy and internal irradiation therapy.

7- Implementation of the requirements for radiography and quality assurance with the advice of a qualified expert in either the physics of radiological diagnosis or the physics of nuclear medicine, as the case may require, with regard to the diagnostic uses of radiation.

8- The medical practitioner shall notify the registrant or the licensee of any deficiencies or needs related to compliance with radiation protection standards in terms of the protection and safety of patients and take what is necessary to ensure their protection.

Article (40)

Justification of medical exposure:

Medical radiation exposures must be justified by comparing the diagnostic or therapeutic benefits that they achieve with the radiation damage they may cause, taking into account the benefits and risks of available alternative techniques that do not involve medical radiation exposure, taking into account the following:

1. Relevant guidelines, such as those established by the World Health Organization.

2- Not to conduct any radiological examination for professional, legal or health insurance purposes, regardless of clinical symptoms, unless it is confirmed that useful information is available about the health of the individual being examined.

3- Not to conduct an intensive radiological examination of population groups, unless the expected benefits for the individuals being examined or for the population as a whole are sufficient to offset the economic and social costs, including the radiation damage of this examination.

4- Not to expose humans to radiation in medical research, unless they agree with the provisions contained in the Declaration of Helsinki issued by the eighteenth International Medical Meeting, and follow the guidelines for its application issued by the Council of International Organizations for Medical Sciences, the World Health Organization and any national medical body specified by the Council.

Article (41)

Prevention requirements in the field of diagnostic exposure:

Licensees must verify the following:

1- That the diagnostic medical exposures to patients be at the lowest level that can reasonably be achieved, taking into account the rules regarding the acceptable quality of images as determined by the competent professional bodies, and the relevant indicative levels for medical exposure.

2- Consider conducting audits if the doses exceed the indicative levels set by the committee.

3- To take into consideration the relevant information derived from previous examinations to avoid unnecessary additional examinations.

4- The medical practitioner, technology expert, or other imaging personnel chooses the imaging conditions, including the number of images, parts or organs to be imaged, and others, so that their combination results in the lowest radiation exposure to the patient, consistent with the

required quality of the images and the clinical purpose of the examination. Especially when children are photographed.
5- Avoid radiological examinations that expose the abdomen or pelvis of a pregnant woman, or one that is likely to be pregnant, unless there are strong clinical reasons that justify this.
6- That any diagnostic examination of the abdomen or pelvis of a woman capable of childbearing be planned so as to result in the lowest possible dose for the fetus, if it is present.
7- Provide shielding for radiation-sensitive organs such as the reproductive system, eye lens, breast and thyroid gland, as appropriate and whenever possible.

Article (42)

Prevention requirements in nuclear medicine:

Licensees shall observe the requirements for prevention in the field of nuclear medicine, and in particular, verify the following:
1- The medical practitioner who prescribes or performs diagnostic work with radionuclides verifies the following:
A - The exposure of patients is at the minimum necessary to achieve the desired diagnostic goal.
b- Taking into account relevant information derived from previous examinations to avoid unnecessary additional examinations.
c- Observe the relevant indicative levels set by the committee regarding medical radiation exposure.
2- The medical practitioner, technology expert, or other imaging personnel works to achieve the minimum exposure of patients in a manner consistent with acceptable image quality by:
A- Appropriate selection of the best available radiopharmaceuticals and their radioactivity, with attention to the special requirements of children and patients suffering from organ dysfunction.
b- Using methods to prevent the absorption of radioactive preparations in organs not subject to research, and using methods of accelerated excretion from the body of these preparations when needed.
C- Compiling and processing images optimally.
3- Avoiding the use of radionuclides in diagnostic procedures or radiotherapy procedures during pregnancy and in a woman who is likely to be pregnant, unless there are strong clinical reasons.

4- A recommendation for breastfeeding mothers to stop breastfeeding until the secretion of that quantity of the radiopharmaceutical product that is estimated to transmit an unacceptable effective dose of radiation to the infant ceases.
5- Limiting the description of the diagnosis with radionuclides for children to cases of extreme necessity, and taking into account reducing the radioactivity used according to the child's weight or body surface area, or other appropriate criteria.

Article (43)

Requirements for prevention in the field of therapeutic exposure:

Licensees shall observe the requirements for prevention in cases of therapeutic exposure, in particular verifying the following:
1- Maintaining the exposure of healthy tissue during radiotherapy to a reasonable minimum and in a manner consistent with transferring the required dose to the planned volume of treatment, and using organ shielding whenever practical and appropriate.
2- Avoid radiotherapy procedures that cause exposure to the abdomen or pelvis of a pregnant woman or that is likely to be in a state of pregnancy, unless there are strong clinical reasons.
3- Avoiding the use of radionuclides for the purposes of therapeutic procedures for a woman who is pregnant or likely to be pregnant or who is breastfeeding, unless there are strong clinical reasons.
4- Planning any therapeutic procedure for a pregnant woman so that it transfers only the lowest possible dose to any fetus.
5- Informing the patient of the potential risks.

Article (44)

Fluoroscopy devices in thoracic and internal medicine clinics:

The use of vertical fluoroscopy devices is prohibited in thoracic and internal medicine clinics and in general practitioner clinics.
The use of non-vertical fluoroscopy devices in specialized clinics is not licensed unless the following conditions are met:
1- That the device has the ability to perform normal imaging by means of films in addition to fluoroscopy, and that it contains the tool used to take direct location images during the endoscopy process.
2- Availability of the necessary means for developing films, and not using fluoroscopy as a means of saving the costs of films and development

facilities, where the required information can be obtained with a lower radiation dose through the use of normal imaging methods.
3- Availability of a qualified person to work on the device and ensuring optimal protection for patients, other workers and the general public, in addition to protecting the person himself.

Article (45)

Clinical dosimetry:

Licensees must measure clinical doses and ensure that the following items are identified and documented:
1- Typical values of entry surface doses, dose position, dose rates and exposure times for typical adult patients, or organic doses in the case of radiological examinations.
2- The maximum and minimum absorbed doses carried to the planned volume of treatment, in addition to the absorbed dose carried to a relevant point such as the center of the planned volume of treatment, in addition to the dose carried to other relevant points chosen by the medical practitioner prescribing the treatment, for each patient treated with equipment External radiotherapy.
3- Absorbed doses at relevant points are chosen for each patient in the case of internal irradiation therapy using closed sources.
4- Typical absorbed doses that patients receive in case of diagnosis or treatment with open (not closed) sources.
5- Absorbed doses that are transferred to the relevant organs in all types of radiotherapy.

Article (46)

Calibration requirements:

Licensees shall observe calibration requirements, in particular verifying the following:
1- The possibility of assigning the calibration of the sources used in medical exposures to a standard laboratory for dosimetry.
2- Calibration of radiotherapy equipment with respect to radiation quality or energy and absorbed dose or absorbed dose rate at a predetermined distance under certain conditions, following recommendations issued by international institutions or bodies, such as the International Atomic Energy Agency.
3- Calibration of sealed sources used in internal irradiation therapy in terms of radioactivity, or the reference rate of the kinetic energy of the

substance in the air (the kerma dose), or the rate of the absorbed dose in a certain medium at a certain distance and for a certain reference date.
4- Calibration of unopened sources used in nuclear medicine procedures in terms of the activity of the radiopharmaceutical to be administered, provided that the value of the radioactivity is determined and recorded at the time of use.
5- Carry out calibration at the time of preparing the unit for operation, and after any maintenance operation that may affect the calibration, and for the periods decided by the Council.

Article (47)

Quality Assurance:

Licensees shall develop a comprehensive program of quality assurance in the field of medical exposures with the participation of qualified experts in related fields such as radiation physics, radiopharmacology or medical physics, taking into account principles defined by relevant organizations such as the World Health Organization and the Pan American Health Organization.
Quality assurance programs in the field of medical exposures include the following:
1- Measurements related to the physical data of radiation generators, x-ray imaging devices, and irradiation installations at the time of preparation for operation and periodically thereafter.
2- Verify the appropriate physical and clinical factors that are used in diagnosing or treating patients.
3- Written records of related actions and outcomes.
4- Verify the appropriate calibration and operating conditions of the dosimetric and monitoring equipment.
5- Carry out, whenever possible, regular and independent reviews of the quality assurance program for radiotherapy procedures.

Article (48)

Medical exposure records:

The licensee shall keep and provide the following records for a period specified by the Board:
1- Information necessary to allow reference to the dosing calendar, including the number of exposures and the duration of endoscopic examinations, in the field of radiological diagnosis.

2- Types of radiopharmaceuticals used and their activities in the field of nuclear medicine.
3- A description of the planned volume of treatment, the dose transferred to the center of the planned volume of treatment, the maximum and minimum doses transferred to the planned volume of treatment, doses transferred to other relevant organs, dose segmentation, and total treatment time, in the field of radiotherapy.
4- The exposure of volunteers in the field of medical research.

Article (49)

Accidental medical exposures:

The licensee shall immediately investigate any of the following incidents:

1- Any treatment of a patient or one of his tissues by mistake, or by the use of a drug by mistake, or by a dose or portions of a dose that is fundamentally different from the values prescribed by the medical practitioner and may result in excessively severe secondary effects.
2- Any diagnostic exposure that greatly exceeds the prescribed exposure, or results in doses exceeding the indicative levels determined by the committee on a frequent and large basis.
3- Any equipment failure, accident, error, or other unusual event that is likely to result in an exposure to patients that differs significantly from the scheduled exposure.

Article (50)

When investigating the incidents referred to in the previous article, the licensee must do the following:

1- account Estimation of doses received and their distribution in the patient's body.
2- Indicate the necessary corrective measures to prevent the recurrence of such an incident.
3- Implement all corrective measures that fall within the scope of his responsibility.
4- Providing the council with a written report that includes the cause of the accident and the necessary information about the doses and corrective measures taken.
5- Informing the patient and his doctor of the details of the accident.

Article (51)

Indicative levels:

The licensee must define indicative levels of medical exposure, such as those approved in the "Security Documents Series No. (115)" issued by the International Atomic Energy Agency, and revise them according to technological developments, and be guided by medical practitioners, for the following purposes:

1- Take corrective measures, as appropriate, if the doses or radioactive activities are significantly less than the indicative levels, and the exposures do not provide useful diagnostic information and do not achieve the desired medical benefit for patients.

2- Consider conducting reviews if doses or radioactivity exceed indicative levels, as necessary to achieve optimal patient prophylaxis and maintain appropriate levels of good practice.

3. For radiological diagnostics, including computerized tomography (CT scans) and nuclear medicine examinations, indicative levels are derived from data from large-scale quality surveys, which include entry surface doses and cross-sectional dimensions of radiation beams emitted by each device on a Acuteness, and activities of radiopharmaceuticals given to patients in connection with the most frequent examinations in radiodiagnostic and nuclear medicine, respectively.

Article (52)

Medical examinations:

It is not permissible for any authority or body authorized to use nuclear or radiological techniques for medical purposes to carry out any diagnosis, treatment or examination for a job or work that involves radiation exposure, except when there is no other technology or means for examination, or that would lead to It leads to positive results of real benefit to the person treated in this way, bearing in mind that the radiation dose is as low as reasonably possible within the economic, social and technical possibilities **.**

The practitioner of the examination, when conducting an examination for women, must first verify the presence or absence of pregnancy, and in the event that pregnancy is proven, regardless of its stage, he must not perform radiological examinations, unless there is an urgent necessity determined by the attending physician and there are no other alternative methods. Violation of this shall result in the license being revoked.

If the person is subject to radiological and periodic examination without a clinical referral, the licensee must make an assessment from time to time of the information resulting from the examinations conducted for him to rely on in determining the method of treatment, modifying it, or stopping the examination for the benefit of that person.

When conducting any mass survey for any reason, the licensees must take into consideration the outweighing the benefits of the survey process over its harms. Such a survey may only be conducted with the approval of the Secretary-General, based on a recommendation from the committee and in accordance with the conditions and restrictions it sets, including limiting the survey process to a specific group of people.

Chapter III
Public exposures (public)
Article (53)

General Responsibilities:

Licensees bear all responsibilities associated with exposure to the general public and future generations and environmental pollution as a result of their use of radioactive sources.

The licensee shall undertake the following:

1- Develop policies, methods and organizational arrangements that achieve the implementation of the requirements and rules for public exposure.

2- Laying down precautions, emergency plans and arrangements for radiological monitoring that are commensurate with the nature and size of the radiological hazards when the accident occurred.

3- Providing sufficient and appropriate manpower and training individuals appropriately.

4- Maintaining sufficient records specified in the regulations and approved by the Council.

5- Provide adequate information and instructions to visitors to ensure that their exposure and that of other individuals who may be affected by the presence of such visitors are restricted.

Article (54)

Dosage limits for the general public :

The dosage for the general public is determined by a decision of the committee.

Article (55)

Patient visitors:

Dosage limits for the general public do not apply to persons accompanying or visiting patients, and the dose received by any of these persons is restricted to the limits set by the Committee.

Article (56)

Requirements for regulating the protection of the general public:

The licensee shall abide by the following:

1- Establishing procedures and organizational arrangements for protection and safety regarding exposure of the general public.

2- Take measures to ensure optimal protection and limit normal exposure to the critical group.

3- Take the necessary measures to achieve the safety of the sources so that the possibility of public exposure can be monitored, and the safety of the appropriate and sufficient facilities, equipment and services to protect the general public, so that their nature and extent are commensurate with the amount and probability of exposure.

4- Providing monitoring equipment and appropriate monitoring programs to evaluate exposure of the general public.

5- Providing adequate training for workers who carry out functions related to the protection of the general public.

6- Maintain adequate records for monitoring and control.

7- Develop emergency plans and procedures.

Article (57)

Discharge of radioactive materials:

Radioactive materials resulting from licensed practices and radioactive sources may not be released into the environment unless the release is within the limits approved by the Council, using the methods set out in the instructions for managing radioactive waste, and according to the conditions and limits set by the committee.

Article (58)

Environmental Monitoring:

It is the responsibility of licensees to carry out environmental radiological monitoring during the phases of operating radioactive sources under their responsibility, taking into account the following:

1- Keep all radioactive releases to their minimum.

2- Monitor releases with the detail and accuracy necessary to demonstrate compliance with approved limits and to allow assessment of critical group exposure.
3- Record monitoring results and estimated exposures.
4- Submit reports to the Board as specified in the License.
5- Immediately inform the Council of any release that exceeds the approved limits.

Article (59)

Consumer Products:

It is not permissible to import consumer products that may cause public exposure, except in the following two cases:
1- Exemption from this exposure by the committee.
2- The council's permission for the general public to use these products.
Entities that import consumer products that may cause public exposure, for the purpose of selling and distributing them later, must attach with the license application submitted to the Council a copy of the license issued by the competent authorities in the country of origin, which permits the distribution of these products to the general public in that country.

Article (60)

Visitors to control areas and supervision areas:

Visiting control areas must be accompanied by a person familiar with prevention and safety measures, and adequate information and instructions should be provided to visitors before entering any control area, to ensure that adequate protection is provided to them and other individuals who may be affected by their actions.
Entry of visitors to supervision areas should be properly controlled and appropriate signage placed in these areas.

Chapter Four

Radioactive source safety requirements

chapter one

General requirements for management and security performance

Article (61)

Prevention and safety features and directions:

The licensee must establish an administrative system commensurate with the size and nature of the licensed practice. This

system must include a set of characteristics and directives related to prevention and safety, which include the following:
1- Follow clear steps to take decisions related to prevention and safety.
2- Quickly identifying and treating problems that affect prevention and safety in a manner consistent with their importance.
3- Clearly define the responsibilities of each individual with regard to prevention and safety, and train and qualify him appropriately.
4- Putting in place adequate organizational arrangements for the ease and speed of the communication mechanism and the mechanism for transmitting information related to prevention and security at all levels in the entity to which the licensee is affiliated.

Article (62)

Quality Assurance :

The licensee must develop and implement a quality assurance program that includes the following:
1- Adequate guarantee that the specified requirements relating to prevention and safety are fulfilled.
2- A sufficient guarantee that all workers on whom protection and safety depend are trained and qualified to a sufficient degree to understand their responsibilities and perform their duties.
3- Providing quality assurance mechanisms and procedures for reviewing and evaluating the activities of radiation protection and safety systems.

Article (63)

Taking into account human factors:

The licensee shall follow appropriate principles that take into account the capabilities of operators when designing equipment and applying operating procedures.

He must also work to provide adequate equipment, safety systems and procedures that would reduce as much as possible the possibility of human errors, and provide the necessary means to detect them and facilitate the intervention mechanism in the event of emergency accidents.

Article (64)

Source security :

Sources are kept securely with the purpose of preventing unauthorized use or transfer, theft or damage, by verifying the following:
1- Ensuring the continuity of supervision over the sources without prejudice to all relevant requirements as specified in the licence, and the

Board must be immediately informed of the information related to the cessation of control over any source, its loss, theft, loss or loss of control over it.

2- Not to transfer any source to any authority before making sure that the transferee has obtained the necessary license.

3- Conducting a periodic inventory of the sources at intervals as specified in the license to ensure that they are in the places designated for them and to secure them.

Article (65)

Necessary precautions :

The licensee undertakes to implement a precautionary system regarding prevention and safety, in proportion to the volume of possible or latent exposures and their probabilities, to achieve the following:

1- Preventing accidents that may cause exposure.

2- Mitigating the consequences of any of these accidents if they occur.

3- Restore the sources to safe conditions after the accident.

Article (66)

Engineering Standards:

The locations of the resources falling within the scope of the practices must be selected , designed, constructed , assembled, prepared for operation, operated, maintained and finally stopped operating, in accordance with engineering standards that meet the following specifications :

1- Taking into account the engineering and technical instructions, standards and other documents in an appropriate manner, and that they are supported by reliable administrative and organizational systems that ensure the implementation of the requirements of protection and safety throughout the life of the sources.

2- Include adequate margins of safety when designing and constructing the sources and the practices that are involved in them in a manner that ensures the achievement of reliable performance during normal operating conditions, taking into account quality and inspectability, emphasizing the prevention of accidents, mitigating their consequences, and limiting any radiation exposures in the future .

3- Taking into account scientific and technical developments, and the results of relevant research in the field of prevention and safety.

Article (67)

Organization of protection in the facility:

The licensee shall take all necessary measures to organize the prevention of accidents, by following the following:

1- Monitoring the means actually used for the purpose of protection from exposure to radiation.

2- Providing the necessary means to monitor the surroundings of the facility and warning signs to ensure compliance with the dose limits.

3- Keeping and keeping the records stipulated in this regulation and the decisions issued according to it.

4- Determining the boundaries of the control and supervision areas.

5- Preparing the following local work instructions, implementing them and ensuring their effectiveness:

A- Protection and control instructions required to be observed for the normal course of activities and works of the facility .

b- Instructions related to the implementation of maintenance, repair or testing works.

C- Instructions for intervention in the event of an accident.

D- Instructions for monitoring individual radiation doses.

E - Instructions for periodic inspection to ensure the validity and calibration of all used radiological surveying and measuring equipment.

6- Appointing an officer for radiation protection, defining his duties, duties and powers, and circulating this to all employees.

Article (68)

Source and transaction logs:

The licensee shall prepare a record that shall be constantly updated, in which it shall indicate the following:

1- Data of all radioactive sources, their movement and any accidents they were exposed to.

2- All the modifications and changes made to the radioactive sources and the means of protection, the nature of these modifications, the names of the people who implemented them, the date of their implementation, and the incidents that occurred during that.

3- Examinations and monitoring of radioactive sources, the date of their implementation, and the observations recorded during that.

4- Periodic inventory of radioactive sources and their movement, and ensure the presence of those sources in their safe places.

Article (69)

Notification to users of radioactive sources:

The licensee shall inform the users of radioactive sources of the following:

1- The dangers of exposure to radiation.

2- Precautions to be taken to prevent these dangers.

3- Work methods that provide the best levels of prevention and safety.

4- The guarantees provided by physical measures and periodic medical examinations.

5- Safety and radiation protection instructions, and the obligation to comply with them.

Article (70)

Efficiency and qualification of users:

The handling and use of radioactive sources shall be under the permanent supervision of qualified and licensed users of the Council.

Chapter II

Safety of radioactive sources and accidents

Article (71)

Design requirements:

The licensee is obligated to put in place procedures to ensure the safety of the sources that fall under his responsibility in order to put an end to the possibility of latent exposures.

Article (72)

Source website:

When choosing a site for any source, the following must be taken into account:

1- Factors that may affect the security of sources.

2- Factors that may affect the exposure of workers and the general public internally or externally.

3- The engineering design should take all other factors into account.

Article (73)

Establishment location:

An evaluation should be made for any proposed site to establish a facility that uses radioactive sources, taking into account the site characteristics that may affect the safety of the sources, such as floods,

torrential rains, earthquakes and other natural disasters, and the ability of the proposed site to cope with these factors.

Article (74)

Maintenance, testing and monitoring :

The licensee is obligated to carry out the following:

1- Carry out maintenance, monitoring, tests and all types of service, whenever needed, to ensure that the source remains in its condition, meeting the protection and safety requirements of the design throughout the life of the source.

2- Implementation of programs and works related to maintenance, control and testing, according to written methods and supported by the requirements of quality control.

Article (75)

Incident management :

The licensee must be prepared to take any necessary actions or procedures to confront and deal with any emergency incidents and correct operational errors.

For large and complex sources, the licensee must:

1- To prepare in advance a manual on accident management that meets the effective response to the safety requirements of the source in possible accidents.

2- To provide and prepare the equipment, tools and diagnostic tools that may be required to control the course of the accident and the resulting and potential effects thereof.

3- To provide adequate training for the operating and emergency personnel on the roads and the steps to be followed when the accident occurs.

Article (76)

contingency plans:

The licensee shall undertake to prepare contingency plans to be approved by the Council, in relation to any practice that may require immediate intervention by the Council.

He must also prepare separate contingency plans for major accidents to include inside and outside the site and outside the boundaries of the region, provided that these plans are interconnected with each other. The licensee bears full responsibility for implementing the plan inside and outside the site. Outside the area, emergency plans are

implemented by the concerned authorities to intervene, whether it is the civil defense or the council.

The contingency plan should include:

1- Determining responsibilities regarding informing the relevant authorities and initiating the intervention.

2- Determining the different operational conditions of the resource that may lead to the need for intervention.

3- Evaluate the levels of intervention and the scope of application of the different protective measures according to the duration of the accident.

4- Methods and steps for contacting the concerned authorities to obtain their assistance.

5- Describe the methods and identify the tools needed to evaluate the accident inside and outside the site, and the sequence of these methods.

6- Description of communication and information arrangements.

7- Criteria for ending the intervention.

Contingency plans must be reviewed and updated periodically and according to the rate determined by the Board, and all precautions must be taken to train all personnel involved in implementing these plans.

The licensee, in coordination with the Council, shall provide information related to the general public who may be affected by the accident to benefit from it upon the occurrence of the accident, and it shall include the actions and procedures to be taken to mitigate its effects on the general public. The quantity and sufficiency of the information is subject to the approval of the Council.

The licensee shall provide the appropriate needs and capabilities to provide information to the various authorities capable of predicting the size and extent of radioactive releases, for the purpose of a rapid and continuous assessment of the situation, and determining the extent of the need for preventive actions.

Article (77)

Protection of personnel involved in the intervention:

No worker who undertakes an intervention may be exposed to a dose exceeding the maximum prescribed dose in one year for occupational exposure as determined by the Committee, except in the following cases:

1- Saving life or preventing serious injury.

2- Take measures to avoid a large cumulative dose.

3- Take measures to prevent the development of catastrophic conditions.

When the intervention is undertaken under these conditions, every effort shall be made to keep doses to personnel less than twice the maximum dose limit in one year, except for life-saving measures, where every effort shall be made to keep doses less than ten times the maximum dose in one year. One year, to avoid definite effects on health.Workers should not undertake procedures in which the dose they receive may approach or exceed ten times the maximum dose in one year, except in cases where the benefits to others are clearly greater than the risk to the workers.

Personnel engaged in procedures in which the dose may exceed the maximum dose in one year must be made aware of the potential health risks and appropriately trained in the procedures that may be required.

All reasonable steps must be taken to provide adequate prophylaxis during the emergency intervention, and to evaluate and record the doses received by the personnel involved in the emergency intervention.

After the end of the intervention, the participating personnel are informed of the doses received and of the health risks arising therefrom. In cases where it is not excluded that the workers will receive normal occupational exposure in addition to the emergency exposure, medical advice from a qualified physician is required prior to receiving such additional exposure if The worker who participated in an emergency exposure had received a dose exceeding ten times the maximum dose in one year, or at the worker's request.

Chapter III

Instructions for the safe transportation of radioactive materials

Article (78)

Transport of radioactive materials:

No radioactive material may be transported by any means of transport within the state or across its borders, except in accordance with the provisions of these regulations and the instructions for the safe transport of radioactive materials, and the rules of safe international transport of radioactive materials if the transport is international.

Article (79)

Transportation Instructions:

Instructions for the safe transportation of radioactive materials shall be issued by a decision of the Chairman of the Council that includes the following:

1- Technical terms needed to implement the provisions of the safe transport of radioactive materials.
2- Standards for classifying, packaging and transporting radioactive materials by all means of land, sea or air transportation within the country or across its borders.
3- The scope of validity of the instructions, the types of packages they include, and the radioactive materials covered by the instructions and those not covered.
4- Description of radioactive materials and the exemptions they include.
5- Provisions for packaging radioactive materials and the permissible limits.
6- Provisions for the description of consignments or any load of radioactive materials to be the object of transport.
7- Instructions, procedures and conditions for shipping radioactive materials.

Chapter Five
Radioactive waste management
chapter one
General provisions for the management of radioactive waste
Article (80)

Field of application:

The provisions of this chapter shall apply to all practices and works related to the management of radioactive waste, including all operations of collection, separation, characterization, classification, preparation, processing, treatment, storage and disposal of radioactive waste generated by all radioactive practices in the medical, industrial, agricultural, pharmaceutical and research fields. educational and others.

These provisions also apply to the management of radioactive waste resulting from the activities of mines and mills in part. The waste resulting from the nuclear fuel cycle is subject to additional provisions and requirements, which are issued by a decision of the President.

Article (81)

Exceptions and Exemptions:

Radioactive waste shall be exempted from the provisions of this regulation if its content of radionuclides is below the tolerance levels specified by the committee.

Article (82)

Responsibilities:

The licensee is responsible for the safe management of radioactive waste, and must take all necessary steps to ensure the safety of such waste, comply with all instructions for the safe management of radioactive waste, as well as comply with all appropriate instructions, including radiation protection and safety instructions. Licensee's responsibilities include:

1- Conducting safety and environmental impact assessments.

2- Ensuring adequate protection for workers, the general public (the public) and the environment.

3- Ensuring the provision of trained personnel, appropriate equipment and facilities, training, and operating steps, to ensure the implementation of safe radioactive waste management steps.

4- Establishing and implementing a quality assurance program for generated radioactive waste and for its treatment, storage and disposal.

5- Establishing and maintaining records of appropriate information related to the generation, treatment, storage and disposal of radioactive waste, including the stock of such waste.

6- Providing control and supervision over the generated radioactive waste and its storage places.

Article (83)

License:

No natural or legal person may manage radioactive waste without a license from the Council.

The license applicant must submit to the Council an application for a license to manage radioactive waste thirty days before commencing work. The application shall include all details related to this management in accordance with the requirements of this regulation, and the conditions and procedures issued by the committee .

It is not permissible for any natural or legal person to store radioactive waste generated abroad within the borders of the State or in its territorial sea or its exclusive economic zone.

Article (84)

Appointment of a Radioactive Waste Management Officer:

The licensee must appoint a person who is technically qualified and independent to act as an official in charge of managing radioactive waste, provided that he is licensed to do so by the Council, and the radiation

protection officer may carry out this task in the cases the Council deems appropriate.

Chapter II
Control and inspection

Article (85)

Inspection:

All practices directly or indirectly associated with radioactive waste, and all places where such practices take place, or which may affect or be affected by them, are subject to inspection by the Council. The Council also has the right to inspect all persons engaged in practices related to the management of radioactive waste, and all records of radioactive materials or waste, and to obtain copies of these records.

Article (86)

Monitoring the generation of radioactive waste:

The licensee must ensure that the generation of radioactive waste is at the lowest practicable limit.

Article (87)

Classification of radioactive waste:

Once generated, radioactive waste is classified into the following:

1- Permitted (exempt) substances or wastes: Substances containing levels of radioactive isotopes at concentrations lower than those determined by the committee.

2- Low-level waste (short-lived) or decay waste: Low-level radioactive waste, containing only short-lived radioactive isotopes, i.e. radioactive isotopes with a half-life of less than one hundred days, and which decay to permitting levels within three years from the date of her birth.

3- Low, medium level and short half-life waste: Waste that does not decay to allowable levels within three years, and contains radioactive isotopes emitting beta particles and gamma radiation with half-lives of less than thirty years, or emitting alpha particles with a radioactivity of less than (400) Becquerel/gram, and the total radioactivity of which does not exceed (4000) Becquerel for each package of this waste

4- Low and medium-level waste with a long half-life: radioactive waste containing radioactive isotopes in concentrations greater than those concentrations of low- and medium-level waste with a short half-life,

which does not generate heat at a rate of more than three kilowatts / cubic meter of waste.

5- High-level waste: radioactive waste containing radioactive isotopes in concentrations greater than the concentrations of low- and medium-level radioactive waste, with a short half-life that generates heat at a rate of more than three kilowatts / cubic meter of waste.

Article (88)

Recycle and reuse of radioactive materials:

A person licensed to use radioactive materials must comply with the following:

1- Not to open or disassemble any airtight source.

2- Not to consider these materials as radioactive waste, if they can be reused by him or by any other party.

3- He shall not transfer the radioactive materials to another beneficiary body except with the approval of the council, and after making sure that that party is licensed by the council.

Article (89)

Returning sealed sources to the resource:

The licensee must, when purchasing closed sources, include a text in the contract to return the radioactive source to the supplier after the end of his need for it if its radioactivity exceeds the limits determined by the committee, within a period not exceeding fifteen years from the date of purchase.

The licensee must submit to the Council a copy of the parts that refer to that from the contract or the document accepting the supplier to recover the source, and obtain the Council's approval in writing before the date of the contract or importing the source.

Article (90)

Discharge of radioactive materials to the environment:

The licensee shall endeavor not to release radionuclides into the environment, except in accordance with the following controls:

1 - That the limits of exchange be within the limits authorized by the license granted to him by the Board, and that they be within the conditions determined by the committee.

2- The radioactivity of the liquid and gaseous wastes being discharged shall be within the limits set by the committee.

If the licensee wishes to release gaseous, liquid or solid radioactive waste into the environment with radioactive activity exceeding the levels determined by the committee, he must submit a written request to the council to submit it to the committee, which has the right to reject or accept this request.

The licensee shall also abide by the following:

1- To keep the disbursement and release of radionuclides at the minimum that can be achieved within the economic and technical limitations, without the authorized limits.

2- To monitor and record the disbursement and release of radionuclides in sufficient detail and accuracy to demonstrate compliance with authorized disbursement limits and permitted exposure to human populations.

3- To submit a report on the expenditure to the Council, within the time periods specified by the Council.

4- To submit a report to the Council immediately on any disbursement or release that exceeds the authorized limits.

When releasing radioactivity within the discharge levels permitted by the Committee, or when dispensing radioactive waste with a permit, the non-radioactive hazards of the discharged waste must be taken into account, and any other regulatory requirements dealing with these hazards must be complied with.

Article (91)

Disposal of radioactive waste:

When the radioactive waste is not suitable for discharging or releasing into the environment or allowing within a reasonable period of time, whoever has such waste must submit a request to the Council for disposal, while ensuring that the criteria set by the Council and the Committee are met to accept radioactive waste in any cemetery or in Any national waste management body.

Article (92)

Separating, grouping and characterizing radioactive waste into groups:

The licensee shall ensure that the radioactive waste is separated into groups at the place where it is generated, as determined by the committee. Waste is separated into groups on the basis of categories, which designate the use of available treatment options.

After separating the radioactive waste into groups, each type of waste should be kept in a separate container, and the containers should be labeled according to the conditions set by the Committee.

Article (93)

waste storage:

It is prohibited to store radioactive waste except in such a way as to protect human health and the environment, and in particular, such waste must not be stored near corrosive, explosive or flammable materials.

The boundaries of the facilities or spaces designated for storing radioactive waste must be clearly indicated, with control of the access points to them. Storage areas for untreated waste should be separated from those that have undergone conditioning.

Storage facilities or spaces must also have the following characteristics:

1- A sufficient capacity to accommodate the radioactive waste generated before disposal, treatment and transportation.

2- A simple structure consisting of walls and floors that are not combustible and easy to remove contamination.

3- A watertight floor covering with containment edges and slight slopes for a central collection area for liquids.

4- Adequate ventilation.

5- Possibility of collecting air samples and radiological warning.

6- Availability of means of fire detection and prevention.

7- Availability of separators to separate different types of radioactive waste, to facilitate safe storage of materials with special, volatile and disease-causing risks, and materials that are subject to rotting and chemically active.

8- Ease of defining its borders as radioactive control areas.

9- Use the performance record system that identifies the list of containers, their entry date, the type of radioactive waste, and their radioactivity. The performance record should be kept outside the storage location, near the storage location or space.

10- Provide protection for waste from the surrounding environment, including temperatures.

11- Providing protection against intrusion.

12- Use of mobile radiation-protective shields as needed.

Article (94)

Quality Assurance:

The licensee must submit a quality assurance program to the Council for approval, as part of the license application, covering all aspects of radioactive waste management, facilities, activities and waste, and that this program is commensurate with the volume of operations.

The effectiveness of the quality assurance program must also be verified by independent checks, to ensure that radioactive waste management activities are implemented so that they meet the requirements necessary to protect human health and the environment.

Quality assurance documents must include:

1- The stock of radioactive waste, including its origin, location, physical and chemical properties, and a record of the radioactive waste disposed of from the facility as authorized by it.

2- Site plans, engineering drawings, specifications and descriptions of operations.

3- Data resulting from quality assurance, quality control steps, and operating activities.

4- Environmental and safety assessment methods and methods of calculating that.

5- The results of the environmental assessment and the safety assessment.

7- Results of monitoring the environmental impact and rates of exchange and broadcasting.

8- Determining the identification numbers of radioactive waste parcels.

9- Data on the waste that has been disposed of and the place of its disposal.

Article (95)

Physical protection:

The licensee must ensure that all means are taken to prevent unauthorized persons from entering areas of storage, collection, treatment or preservation of radioactive waste.

Article (96)

Records and reports:

The licensee must submit to the Council a report and record of his actual stock of radioactive waste, including the details required by the Council.

He shall also, within fifteen days from the end of each year, send to the Council a copy of the waste stock register and a report for the year specifying the types, quantities and final cases of the following:

1- Substances that are allowed to be released into the environment.
2- Waste that was spent on the environment.
3- Closed sources returned to the supplier.
4- Any other details requested by the Council.

The Board has the right to inspect and review records at any time.

The licensee, in the event of loss, theft, or loss of any radioactive waste, shall immediately inform the Council, and submit a written report within ten days, indicating the matter and the measures taken.

If radioactive materials are released into the environment at rates that exceed the permissible levels, or when wastes are disbursed at rates that exceed the limits set by the committee, the licensee must inform the council immediately, and submit a written report in this regard and the measures taken within twenty-four hours to be presented to the committee.

Article (97)

Emergency plan for radioactive waste:

The licensee must provide a plan for radiological emergencies that may result from this waste, and provide the human, technical and material competencies necessary to confront emergency situations, and submit this plan to the Council for approval. He must also train the confrontation personnel or crews on all confrontation actions, including This includes work related to the removal of radioactive contamination and the restoration of control over radioactive waste.

Instructions for removing radioactive contamination are issued by a decision of the president based on the committee's recommendation.

As for waste incidents that require the participation of individuals or entities other than the licensee, prior coordination with these individuals or entities should be determined, the role of each of them should be defined, and the necessary training should be conducted for them.

After the approval of the Council, the emergency plan for radioactive waste may be included in the general radiological emergency plan, for those who have a license to handle quantities of radioactive materials or sources with limited radioactive activities, and they do not form radioactive waste that poses significant risks to humans or the environment.

Article (98)

Non-ionizing rays:

The President shall issue instructions for protection against non-ionizing radiation, based on the committee's recommendation, within a period not exceeding two years from the date of enforcement of this regulation.

Article (99)

Things not mentioned in the text:

What is not provided for in this regulation is guided by the standards issued by international agencies and organizations, such as the International Atomic Energy Agency and the World Health Organization .