

Pursuant to Articles 8(h), 16(1) of the Law on Radiation and Nuclear Safety in Bosnia and Herzegovina (Official Gazette of BiH 88/07) and Article 61(2) of the Law on Administration (Official Gazette of BiH 32/02 and 102/09), the director of the State Regulatory Agency for Radiation and Nuclear Safety issues the

## **REGULATION ON TECHNICAL SERVICES FOR IONIZING RADIATION PROTECTION**

### **PART ONE – GENERAL PROVISIONS**

#### **CHAPTER I. – Subject and definition**

##### **Article 1 (Subject)**

This regulation provides for the types of external technical services for ionizing radiation protection (hereinafter: technical services); the general and special authorization requirements for technical services; a description of the tasks performed by technical services; the required qualified personnel, equipment and premises; the content and layout of the forms and validity periods for the reports and certificates issued by technical services, and also other important matters relating to technical services.

##### **Article 2 (Definition)**

The technical service is an authorized legal person that provides services to the third parties, competent to perform tasks of the technical services referred to in this regulation and properly authorized from the perspective of radiation protection. Technical services provide professional radiation protection information to legal persons in accordance with applicable regulations. Technical services possess or use radiation sources, i.e. may possess or use the sources associated with performing a given service practice.

#### **CHAPTER II. – Authorization of technical services**

##### **Article 3 (Authorization of technical services)**

- (1) The State Regulatory Agency for Radiation and Nuclear Safety (hereinafter: Agency) authorizes technical services through granting a licence or registration. The licence or registration is an integral part of a procedural decision issued by the Agency, which also contains the requirements for performing the practice.
- (2) The technical service with an appropriate authorization is responsible for the provision of quality and timely services from its scope of work to natural and legal persons, and the Agency.
- (3) The validity period for the licence/registration referred to in paragraph (1) is up to three years.
- (4) The layout and content of the licence/registration for technical services are shown in Annex 2.

- (5) The licence/registration must be kept legible and posted on a visible place in the premises of the authorization holder.
- (6) The Agency grants the licence/registration for the following technical services:
  - a) Radiation safety control;
  - b) Medical physics;
  - c) Individual monitoring of exposed workers;
  - d) Installation, servicing and dismantling of devices;
  - e) Radiation monitoring of the environment;
  - f) Medical surveillance of exposed workers;
  - g) Calibration of measuring instruments and/or individual monitoring equipment;
  - h) Training in ionizing radiation protection;
  - i) Operator of the central storage facility for radioactive waste;
  - j) Collecting spent and disused sealed sources in original devices or containers;
  - k) Controlling the presence of radioactive material in scrap metal shipments;
  - l) Protection and quality control in intraoral dental radiology.

#### Article 4

##### **(Renewal of the authorization and termination of business)**

- (1) Within 60 days before the expiry of the licence/registration, the Agency informs the legal person in writing that the authorization validity period is about to expire and that the authorization needs to be renewed, indicating the necessary documents for renewal.
- (2) If the authorization holder intends to continue performing the practice, it must file the application for licence/registration renewal within 30 days before the licence expires.
- (3) If the authorization holder intends to terminate the business, it must inform the Agency thereof 60 days before the business closing date and send a proof that the premises used for carrying out the practice are not contaminated and can be further used.

### **CHAPTER III. – Tasks of technical services**

#### Article 5

##### **(Tasks of the technical service for radiation safety control)**

The technical service for radiation safety control performs the following tasks:

- a) Relevant measurements based on which it issues an expert opinion and a certificate of the compliance of radiation sources and premises for their use or storage with the provisions of applicable regulations;
- b) Expert advising on the design, functioning, and modifications of radiation facilities, and the installation of radiation sources in these facilities from the perspective of radiation protection;
- c) Effective dose assessment based on the model in accordance with applicable regulations;
- d) Radiation risks assessments;
- e) Expert advising required for the classification of radiation areas;
- f) Expert advising required for the categorization of exposed workers;
- g) Assessment of access, stay, and work in the controlled and supervised areas;
- h) Measurement of the radiation and contamination levels;
- i) Radiation monitoring of the workplace;

- j) Monitoring of radioactive effluents;
- k) Testing of the personal protective equipment;
- l) Proposing measures for optimizing radiation protection;
- m) Calculation of parameters for shielding barriers;
- n) Wipe testing of sealed sources for leakage by using the swab method;
- o) Control of the protection, safety systems, and warning systems;
- p) Expert advising to the user on the preparation of the radiation protection program in accordance with applicable regulations;
- q) Consultations in the field of radiation safety;
- r) Commissioning and decommissioning of radiation facilities;
- s) Decontamination;
- t) Support and intervention in case of a radiation incident;
- u) Controlling the presence of sealed radiation sources at the entrance of scrap metal collection or processing facilities;
- v) Expert advising in accordance with applicable regulations.

#### Article 6

#### **(Classification of technical services for medical physics)**

The technical service for medical physics means the services for the following categories of practice:

- a) Medical physics in radiotherapy;
- b) Medical physics in nuclear medicine;
- c) Medical physics in diagnostic radiology.

#### Article 7

#### **(Tasks of the technical service for medical physics)**

The technical service for medical physics performs the following tasks:

- a) Physical measurements to estimate the dose to the patient and other individuals subject to medical exposure;
- b) Expert advising on medical radiological equipment;
- c) Proposing optimization of radiation protection of the patients and other individuals subject to medical exposure, including the application and use of diagnostic reference levels;
- d) Developing and implementing a quality assurance program for medical radiological equipment;
- e) Participation in the preparation of technical specifications for medical radiological equipment and installation design;
- f) Development of the quality control protocols;
- g) Dosimetric measurements;
- h) Analysis of the events that involve or could involve accidental or unintended medical exposures;
- i) Presence during the performance of the acceptance test for the equipment and approval of the test results;
- j) Defining the parameters of initial reference condition of the equipment;
- k) Participation in the training of exposed workers in the relevant aspects of radiation protection.

#### Article 8

**(Tasks of the technical service for individual monitoring  
of exposed workers)**

The technical service for individual monitoring of exposed workers performs the following tasks:

- a) Individual monitoring of exposed workers;
- b) Interpretation of the measurement results;
- c) Sending reports to the Agency for the national register of doses, in the electronic form created by the Agency.

Article 9

**(Classification of technical services for installation, servicing  
and dismantling of devices)**

The technical service for installation, servicing and dismantling of devices means the services for the following categories of practice:

- a) Installation, servicing and dismantling of radiation generators in:
  - 1) medicine and veterinarian science;
  - 2) dental medicine;
  - 3) industry;
  - 4) control of luggage and goods.
  
- b) Installation, servicing and dismantling of devices containing sealed radiation sources in:
  - 1) medicine and veterinarian science;
  - 2) industry;
  - 3) testing laboratories;
  - 4) ionizing smoke detectors.

Article 10

**(Tasks of the technical service for installation, servicing  
and dismantling of radiation generators)**

The technical service for installation, servicing and dismantling of radiation generators performs the following tasks:

- a) Installation;
- b) Ensuring the performance of an acceptance test in accordance with applicable regulations;
- c) Transfer;
- d) Servicing (repair and maintenance);
- e) Replacement of the source (X-ray tubes or accelerator tubes);
- f) Dismantling of the radiation generator.

Article 11

**(Tasks of the technical service for installation, servicing and dismantling  
of devices containing sealed radiation sources)**

The technical service for installation, servicing and dismantling of devices containing sealed radiation sources performs the following tasks:

- g) Installation;
- h) Ensuring the performance of an acceptance test in accordance with applicable regulations;
- i) Transfer;
- j) Servicing (repair and maintenance);
- k) Replacement of the source;
- a) Dismantling of devices containing sealed radiation sources.

Article 12

**(Classification of technical services for radiation monitoring  
of the environment)**

The technical service for radiation monitoring of the environment means the services for the following categories of practice:

- a) Radiation analysis of the environment;
- b) Measurement of radon and radon progeny concentrations in the air;
- c) Measurement of radon concentration in the water.

Article 13

**(Tasks of the technical service for radiation analysis of the environment)**

The technical service for radiation monitoring of the environment performs the following tasks:

- a) Laboratory analysis of environmental samples;
- b) Measurement of the ambient dose equivalent;
- c) Radiation analysis of environmental samples;
- d) Analysis of radionuclide content in the items of general use, medications, tobacco and tobacco products, and building material;
- e) Interpretation of the measurement results.

Article 14

**(Tasks of the technical service for measuring the radon  
and radon progeny concentrations in the air)**

The technical service for measuring the radon and radon progeny concentrations in the air performs the following tasks:

- a) Measurement of the radon concentration in the air, work environment, and the environment;
- b) Interpretation of the measurement results.

Article 15

**(Tasks of the technical service for measuring  
the radon concentration in the water)**

The technical service for measuring the radon concentration in the water performs the following tasks:

- a) Measurement of the radon concentration in the water;
- b) Interpretation of the measurement results.

Article 16

**(Tasks of the technical service for medical surveillance of exposed workers)**

The technical service for medical surveillance of exposed workers performs the following tasks:

- a) Medical examination, health assessment, and assessment of fitness to perform job duties of Category A exposed workers.

Article 17

**(Tasks of the technical service for calibration of measuring instruments  
and/or individual monitoring equipment)**

The technical service for calibration of measuring instruments and/or individual monitoring equipment performs the following tasks:

- a) Calibration of measuring instruments and/or individual monitoring equipment.

Article 18

**(Tasks of the technical service for radiation protection training)**

The technical service for radiation protection training performs the following tasks:

- a) Training in radiation protection in medical/non-medical practices;
- b) Training in radiation protection in medical practices;
- c) Training in radiation protection in non-medical practices;
- d) Training in radiation protection in other practices.

Article 19

**(Tasks of the technical service-operator of the central storage facility)**

The technical service-operator of the central storage facility performs the following tasks:

- a) Radioactive waste management;
- b) Safety and security of the radioactive waste storage facility in accordance with applicable regulations.

Article 20

**(Tasks of the technical service for collecting spent and disused sealed sources  
in original devices or containers)**

The technical service for collecting spent and disused sealed sources in original devices or containers performs the following tasks:

- a) Collection of sealed sources in original packaging without dismantling the sources from protective containers.

Article 21

**(Tasks of the technical service for controlling the presence of radioactive material  
in scrap metal shipments)**

The technical service for controlling the presence of radioactive material in scrap metal shipments performs the following tasks:

- a) Controlling the presence of sealed radiation sources at the entrance of scrap metal collection or processing facilities.

Article 22

**(Protection and quality control in intraoral dental radiology)**

The technical service for protection and quality control in intraoral dental radiology performs the following tasks:

- a) Monitoring of the workplace in intraoral dental radiology;
- b) Quality control of the ionizing radiation generators in intraoral dental radiology.

**PART TWO – AUTHORIZATION REQUIREMENTS FOR TECHNICAL SERVICES**

**CHAPTER I. – Categorization, general and special requirements**

Article 23

**(Categorization of technical services for radiation protection)**

- (1) Technical services are categorized according to the risk of the activities they carry out.
- (2) Technical services are grouped into two categories, as follows:
  - a) Category 1: Services carrying out higher-risk activities;
  - b) Category 2: Services carrying out lower-risk activities.
- (3) The technical services in category 1 are:
  - a) Radiation safety control;
  - b) Medical physics;
  - c) Installation, servicing and dismantling of devices;
  - d) Calibration of measuring instruments and/or individual monitoring equipment;
  - e) Operator of the central storage facility for radioactive waste;
  - f) Collecting spent and disused sealed sources in original devices or containers;

- g) Controlling the presence of radioactive material in scrap metal shipments;
- h) Protection and quality control in intraoral dental radiology.

(4) The technical services in category 2 are:

- a) Individual monitoring of exposed workers;
- b) Radiation monitoring of the environment;
- c) Medical surveillance of exposed workers;
- d) Training in ionizing radiation protection.

Article 24  
**(Inspection surveillance)**

- (1) Technical services are subject to inspection monitoring by the Agency inspectorate.
- (2) The frequency of inspection monitoring is:
  - a) Category 1: at least once a year;
  - b) Category 2: at least once in two years.

Article 25  
**(Types of authorization)**

- (1) Category 1 technical services are authorized by licensing.
- (2) Category 2 technical services are authorized by registration.

**CHAPTER II. – Authorization of technical services**

Article 26  
**(General licensing requirements)**

- (1) In order to obtain the licence for carrying out the practice of technical services, the legal person must submit the following documentation to the Agency:
  - a) Licensing application;
  - b) Completed form shown in Annex 1;
  - c) A proof of the registration of the legal person with the relevant authority in Bosnia and Herzegovina for the technical service practice requested for authorization;
  - d) A proof of the ownership of the premises or a valid document confirming the right to use the premises for performing technical service tasks;
  - e) Proofs of the employment status of the qualified personnel, issued by the legal person-employer;
  - f) A decision appointing a radiation protection officer, in accordance with applicable regulations;
  - g) The following documents for licensing the technical services referred to in Article 23(3):
    - 1) The categorization of exposed workers into Category A or B, in accordance with applicable regulations,
    - 2) A proof of individual monitoring of exposed workers,
    - 3) A proof of fitness of Category A exposed workers.

- h) A proof of ownership of equipment in the form of a sales contract including an equipment handover record or a proof of donation or an extract of the inventory list with the specified equipment;
  - i) A proof that the measuring equipment used by the technical service is calibrated at least once in two years or in accordance with the recommendations of the equipment manufacturer if the calibration interval is less than two years;
  - j) Radiation safety procedures for the technical services referred to in Article 3(6) points a), b), d) and j);
  - k) The report and certificate forms for the end-user and the Agency;
  - l) A training plan for the technical service personnel, in accordance with applicable regulations;
  - m) Protocols for work and measurements for each individual activity within the technical service practice;
  - n) A proof of administrative tax payment.
- (2) The licensee for two and more technical services must have only one appointed radiation protection officer.

Article 27  
**(General registration requirements)**

In order to obtain the registration for carrying out the practice of technical services, the legal person must submit the following documentation to the Agency:

- a) Registration application;
- b) Completed form shown in Annex 1;
- c) A proof of the registration of the legal person in Bosnia and Herzegovina with the competent authority in Bosnia and Herzegovina for the technical service practice requested for authorization;
- d) A proof of the ownership of the premises or a valid document confirming the right to use the premises for performing technical service tasks;
- e) Proofs of the employment status of the qualified personnel, issued by the legal person-employer;
- f) A proof of ownership of equipment, in the form of a sales contract including an equipment handover record or a proof of donation or an extract from the inventory list with the specified equipment;
- g) A proof that the measuring equipment used by the technical services is calibrated at least once in two years or in accordance with the recommendations of the equipment manufacturer if the calibration interval is less than two years;
- h) The report and certificate forms for the end-user and the Agency;
- i) A training plan for the technical service personnel, in accordance with applicable regulations;
- j) A proof of administrative tax payment.

**CHAPTER III. – Special requirements**

Article 28  
**(Radiation safety control)**

A legal person performs the tasks of radiation safety control if it meets the following special licensing requirements:

- a) Employed qualified personnel with the work experience for the intended tasks:

- 1) A radiation protection expert in the relevant practice;
- 2) A graduate of a faculty of natural sciences and mathematics – physics department or a faculty of electrical engineering, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations.

b) Own equipment:

- 1) A portable instrument for measuring the dose and dose rate;
- 2) A portable instrument for measuring the surface contamination by alpha, beta, and gamma emitting radionuclides;
- 3) A personal alarm dosimeter;
- 4) Instruments for measuring the activity of filters and swabs;
- 5) A portable multi-channel analyzer with an appropriate detector;
- 6) Computer software packages or tools for the calculation of radiation protection parameters, data evaluation and processing,
- 7) Decontamination equipment.

c) Premises for functional testing and storage of instruments.

d) Specific documentation:

- 1) An example of the radiation protection program prepared for the user.

Article 29  
**(Medical physics in radiotherapy)**

A legal person performs the tasks of medical physics in radiotherapy if it meets the following special licensing requirements:

a) Employed qualified personnel:

- 1) A medical physics specialist with an appropriate radiation protection training conducted in accordance with applicable regulations;
- 2) A graduate of a faculty of natural sciences and mathematics – physics department, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations.

b) Own equipment for the quality control and dosimetry in external radiotherapy:

- 1) A reference ionization chamber of Farmer type, of 0.6 cm<sup>3</sup> volume approximately, with an extension cord and a Co-60 build-up cap, calibrated in a secondary standards dosimetry laboratory (hereinafter: SSDL);
- 2) A robust ionization chamber of Farmer type for routine measurements, of 0.6 cm<sup>3</sup> volume approximately, with an extension cord and a Co-60 build-up cap, calibrated in an SSDL;
- 3) A cylindrical ionization chamber, of 0.1–0.3 cm<sup>3</sup> volume approximately, maximum electrode diameter of 1 mm, and an extension cord;
- 4) A plane-parallel ionization chamber for electrons, with a guard ring minimum 4 mm wide;
- 5) A reference electrometer compatible with the ionization chambers listed in indents 1), 2) and 3), calibrated in an SSDL;

- 6) An electrometer for routine measurements, compatible with the ionization chambers listed in indents 1), 2) and 3), with varying voltage bias,  $V_1/V_2$  ratio equal to or greater than 3, and with an option to reverse the polarity;
  - 7) A water or plastic phantom for the calibration or checks of the output, of  $20 \times 20 \times 10$  cm<sup>3</sup> volume approximately, with PMMA walls and a holder for ionization chamber;
  - 8) A water phantom for calibration, of  $30 \times 30 \times 40$  cm<sup>3</sup> volume approximately, with PMMA walls and a holder for ionization chamber with manual steps or an automatic system to vary the position of the ionization chamber;
  - 9) A plastic phantom for the verification of output, field size and coincidence of radiation and light field, with holes for ionization chambers;
  - 10) A barometer, minimum scale 1 mbar hPa or 0.5 mm Hg, calibrated or compared in an SSDL;
  - 11) A thermometer, minimum scale 0.25°C, calibrated or compared in an SSDL;
  - 12) A densitometer for measuring the optical density of X-ray films with a calibration film strip for verifying the scale reading;
  - 13) A radiation field analyzer for measuring the dose distributions in the premises, of  $50 \times 50 \times 40$  cm<sup>3</sup> volume approximately, with a water tank, a pump, and a phantom trolley with vertical movement.
- c) Own equipment for the quality control and dosimetry in brachytherapy:
- 1) A well type ionization chamber or an isotope calibrator with source holding inserts, calibrated in an SSDL for the clinically used sources;
  - 2) A Cs-137 source or a reference source with a long half-life for the stability verification of the well type ionization chamber referred to in indent 1);
  - 3) Equipment for the verification of source homogeneity and source position.
- d) Own equipment for the quality control and dosimetry in surface X-ray therapy:
- 1) An ionization chamber for measuring the energies of radiation generators, with an operating voltage of less than 100 kV;
  - 2) A plastic phantom.
- e) Premises for functional testing and storage of instruments;
- f) Specific documentation:
- 1) An example of the quality assurance program in radiotherapy.

Article 30  
**(Medical physics in nuclear medicine)**

A legal person performs the tasks of medical physics in nuclear medicine if it meets the following special licensing requirements:

- a) Employed qualified personnel:
  - 1) A medical physics expert with appropriate radiation protection training conducted in accordance with applicable regulations.
- b) Own equipment for the quality control and dosimetry in nuclear medicine:

- 1) Equipment for measuring the radiopharmaceutical activity – dose calibrator;
  - 2) A set of radioactive sources for the constancy check of dose calibrator: Co-57, Ba-133, Cs-137, Co-60;
  - 3) Equipment for measuring the uniformity of detectors in nuclear medicine: a fillable flood phantom or a Co-57 flood phantom;
  - 4) Equipment for determining the resolution of detectors in nuclear medicine: a bar phantom;
  - 5) Equipment for measuring the detector sensitivity in nuclear medicine.
- c) Premises for functional testing and storage of instruments;
- d) Specific documentation:
- 1) An example of the quality assurance program in nuclear medicine.

#### Article 31

#### **(Medical physics in diagnostic radiology)**

A legal person performs the tasks of medical physics in diagnostic radiology if it meets the following special licensing requirements:

- a) Employed qualified personnel:
- 1) A medical physics specialist with appropriate radiation protection training conducted in accordance with applicable regulations;
  - 2) A graduate of at least four-year technical high school with appropriate radiation protection training conducted in accordance with applicable regulations.
- b) Own equipment for the quality control and dosimetry in radiography:
- 1) Equipment for the dosimetry of primary X-ray beam with an anode voltage of 50–120 kV;
  - 2) Equipment for noninvasive measurement of X-ray tube anode voltage of 50–120 kV;
  - 3) Equipment for measuring the exposure time;
  - 4) Equipment for X-ray tube focal spot size and shape assessment;
  - 5) Equipment for half-value thickness and filtration assessment;
  - 6) Equipment for measuring the coincidence between light field and radiation field
  - 7) Equipment for assessing the angle between the central axis of X-ray beam and the plane of the image receptor;
  - 8) Equipment for measuring the scattered radiation;
  - 9) Equipment for measuring the base + fog density, speed index, and contrast index;
  - 10) Equipment for measuring the temperature of developers and fixers;
  - 11) Equipment for assessing the resolution of digital receptors and image receptors;
  - 12) Test objects and filters for assessing the contrast and uniformity of digital receptors and computed radiography (CR) readers;
  - 13) Equipment for measuring the luminance and illuminance.
- c) Own equipment for the quality control and dosimetry in mammography:
- 1) Equipment for the dosimetry of primary X-ray beam with anode voltage of 25–35 kV;
  - 2) Equipment for noninvasive measurement of X-ray tube anode voltage of 25–35 kV;
  - 3) Test objects for assessing the contact of the film and the screen, spatial resolution, contrast threshold, and the field size;

- 4) A PMMA phantom, 45 mm thick;
  - 5) A compression force measuring device;
  - 6) Equipment for measuring the scattered radiation.
- d) Own equipment for the quality control and dosimetry in fluoroscopy:
- 1) Equipment for the dosimetry of primary beam of pulse and continuous X-ray radiation with an anode voltage of 50–120 kV;
  - 2) Equipment for noninvasive measurement of X-ray tube anode voltage of 50–120 kV;
  - 3) Equipment for assessing half-value thickness and filtration;
  - 4) A PMMA phantom, 20 cm thick, or an equivalent;
  - 5) Test objects and filters for assessing contrast threshold, spatial resolution, and the field size;
  - 6) Equipment for measuring the scattered radiation.
- e) Own equipment for the quality control and dosimetry in computed tomography:
- 1) Equipment for the dosimetry of primary X-ray beam for an anode voltage of 80–150 kV, with an option to measure the computed tomography dose index (C);
  - 2) Equipment for noninvasive measurement of X-ray tube anode voltage of 80–150 kV;
  - 3) PMMA head and body phantoms for assessing the weighted computed tomography air kerma index ( $C_w$ );
  - 4) A test object for assessing image noise and uniformity in the tissue equivalent region;
  - 5) A test object for assessing the accuracy of CT numbers;
  - 6) A device or test object for assessing slice thickness;
  - 7) Equipment for measuring the scattered radiation.
- f) Own equipment for the quality control in extraoral dental radiology:
- 1) Equipment for measuring the primary X-ray beam for an anode voltage of 50–120 kV, with a possibility to measure  $P_{KW}$ ;
  - 2) Equipment for noninvasive measurement of X-ray tube anode voltage of 50–120 kV;
  - 3) Equipment for measuring the base + fog density, speed index, and contrast index;
  - 4) Equipment for measuring the temperature of developers and fixers;
  - 5) Equipment for measuring the exposure time;
  - 6) Equipment for measuring the scattered radiation.
- g) Premises for functional testing and storage of instruments;
- h) Specific documentation:
- 1) An example of the quality assurance program in diagnostic radiology.

#### Article 32

#### **(Individual monitoring of exposed workers)**

A legal person performs the tasks of individual monitoring of exposed workers if it meets the following special licensing requirements:

- a) Employed qualified personnel:

- 1) A graduate of a faculty of natural sciences and mathematics – physics department, or a faculty of electrical engineering, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations.
- b) Own equipment:
- 1) Thermoluminescent dosimeters (for X and gamma rays, for the whole body, hands, and the lens of the eye) or equivalent passive personal dosimeters;
  - 2) A reader of the dosimeters referred to in point 1);
  - 3) Databases on the exposure levels for exposed workers;
  - 4) A traceability proof that the dosimeter reader is calibrated against a secondary standard;
  - 5) Calculation of combined standard uncertainty for the dosimetric system.
- c) Premises:
- 1) for the dosimetric analysis and keeping records of exposed workers, and administrative work.
- d) Specific documentation:
- 1) An instruction for the proper use of personal dosimeters.

#### Article 33

#### **(Installation, servicing and dismantling of radiation generators)**

A legal person performs the tasks of technical service for the installation, servicing and dismantling of radiation generators if it meets the following special licensing requirements:

- a) Employed qualified personnel for the technical services referred to in Article 9(1)a), indents 1) and 3):
  - 1) A graduate of a faculty of electrical engineering or mechanical engineering or natural sciences and mathematics – physics department, with minimum 240 ECTS, an equipment manufacturer certificate of qualifications for intended tasks and appropriate radiation protection training conducted in accordance with applicable regulations;
- b) Employed qualified personnel for the technical services referred to in Article 9(1)a), indents 2) and 4):
  - 1) A graduate of at least four-year technical high school with an equipment manufacturer certificate of qualifications for intended tasks and appropriate radiation protection training conducted in accordance with applicable regulations.

2) Own equipment:

  - 1) An instrument for measuring dose and dose rate;
  - 2) A personal alarm dosimeter;
  - 3) Personal protective equipment.
- c) Premises:
  - 1) for measuring instruments and tools, and spare parts.

Article 34  
**(installation, servicing and dismantling of devices  
containing sealed radiation sources)**

A legal person performs the tasks of installation, servicing and dismantling of devices containing sealed radiation sources if it meets the following special licensing requirements:

- a) Employed qualified personnel for the technical services referred to in Article 9(1)b), indents 1), 2) and 3):
  - 1) A graduate of a faculty of electrical engineering or mechanical engineering or natural sciences and mathematics – physics department, with minimum 240 ECTS, an equipment manufacturer certificate of qualifications for intended tasks and appropriate radiation protection training conducted in accordance with applicable regulations;
- b) Employed qualified personnel for the technical services referred to in Article 9(1)b), indent 4):
  - 1) A graduate of at least four-year technical high school with an equipment manufacturer certificate of qualifications for intended tasks and appropriate radiation protection training conducted in accordance with applicable regulation.
- c) Own equipment:
  - 1) An instrument for measuring the dose and dose rate;
  - 2) A device for measuring contamination;
  - 3) A personal alarm dosimeter.
- d) Premises:
  - 1) for measuring instruments and tools;
  - 2) suitable premises for temporary storage of radiation sources.

Article 35  
**(Radiation monitoring of the environment)**

A legal person performs the tasks of radiation monitoring of the environment if it meets the following special licensing requirements:

- a) Employed qualified personnel:
  - 1) A graduate of a faculty of natural sciences and mathematics – physics department, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations;
  - 2) A graduate of a faculty of natural sciences and mathematics – chemistry department, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations.
- b) Own equipment:
  - 1) A dosimeter for continuous measurement of the equivalent gamma dose rate in the air;
  - 2) A semiconductor high-resolution HPGe gamma spectrometry system and/or an alpha spectrometry system;

- 3) A proportional low background alpha or beta counter;
- 4) A set of radioactive standard sources for calibration.

c) Premises:

- 1) for the preparation and storage of samples, washing of laboratory instrumentation and dishes;
- 2) for the measurement laboratory;
- 3) for the processing of measurement results.

#### Article 36

##### **(Measurement of radon and radon progeny concentrations in the air)**

A legal person performs the tasks of measuring radon and radon progeny concentrations in the air of residential premises and work environment if it meets the following special licensing requirements:

a) Employed qualified personnel:

- 1) A graduate of a faculty of natural sciences and mathematics – physics or chemistry department, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations.

b) Own equipment:

- 1) An appropriate system for measuring radon and radon progeny concentrations in the air.

c) Laboratory premises.

#### Article 37

##### **(Measurement of radon concentration in the water)**

A legal person performs the tasks of measuring radon concentration in the water if it meets the following special licensing requirements:

a) Employed qualified personnel:

- 1) A graduate of faculty of natural sciences and mathematics – physics or chemistry department, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations.

b) Own equipment:

- 1) An appropriate system for measuring the radon concentration in the water.

c) Laboratory premises.

#### Article 38

##### **(Medical surveillance of exposed workers)**

A legal person performs the tasks of medical surveillance of exposed workers if it meets the following special licensing requirements:

- a) Employed qualified personnel:
  - 1) An occupational medicine specialist with appropriate radiation protection training conducted in accordance with applicable regulations.
- b) Employed or contracted qualified personnel:
  - 1) An ophthalmologist, a psychiatrist, a gynecologist and a psychologist.
- c) Other requirements:
  - 1) ensuring the services of either own or a contracted laboratory that conducts standard hematological and biochemical tests;
  - 2) the legal person may contract the provision of a higher level of specific diagnostics and treatment with a competent health-care institution.

Article 39  
**(Calibration of measuring instruments  
and/or individual monitoring equipment)**

A legal person performs the tasks of calibrating measuring instruments and/or individual monitoring equipment if it meets the following special licensing requirements:

- a) Employed qualified personnel:
  - 1) A graduate of a faculty of natural sciences and mathematics – physics or chemistry department or a faculty of electrical or mechanical engineering, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations.
- b) Own equipment:
  - 1) A dose rate measuring instrument;
  - 2) A safety system for verifying the presence of individuals in the calibration room during irradiation;
  - 3) A personal alarm dosimeter.
- c) Premises:
  - 1) A calibration room with the structural radiation protection, in which the calibration equipment will be stored;
  - 2) A control room for controlling the calibration procedure, with appropriate radiation protection.

Article 40  
**(Training in ionizing radiation protection)**

A legal person performs the tasks of training in ionizing radiation protection if it meets the following special licensing requirements:

- a) Employed qualified personnel:
  - 1) A radiation protection expert in the relevant field of training.
- b) Equipment:
  - 1) Training equipment and accessories for conducting theoretical and practical courses, with modern educational technologies;
  - 2) Own equipment:
    - i. essential technical equipment for individual monitoring and workplace monitoring, the necessary equipment for practical training, and radiation protection equipment for personnel and patients.
  - 3) If not own, then leased equipment:
    - i. The necessary equipment for practical training in the specific practice.
- c) Premises:
  - 1) equipped for theoretical training;
  - 2) for practical training, an accompanying room for 15 participants. As an exception, if the legal person doesn't have own premises, it may contract holders of authorizations for medical, non-medical, and scientific research practices for practical training in the relevant training fields in their premises and with their equipment.

#### Article 41

#### **(Operator of the central storage facility for radioactive waste)**

The requirements for issuing a licence to a legal person to perform as the operator of the central storage facility for radioactive waste are:

- a) Employed qualified personnel:
  - 1) An expert in radioactive waste management or a graduate of a faculty of natural sciences and mathematics – physics or chemistry department, or a faculty of electrical or mechanical engineering, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations, whose competence is assessed by the Agency;
  - 2) A graduate of at least four-year technical high school with appropriate radiation protection training conducted in accordance with applicable regulations.
- b) Own equipment:
  - 1) A portable gammaspectrometer/instrument for the identification of radionuclides, with a library about natural radionuclides and the radionuclides used in industry, medicine, and research;
  - 2) A portable instrument for measuring gamma and neutron dose and dose rate;

- 3) A portable instrument for measuring surface contamination by radionuclides of alpha, beta, and gamma emitters;
- 4) Personal protective equipment, including protective masks and protective clothing;
- 5) Sampling equipment for solid, liquid and gaseous substances;
- 6) Equipment for safe handling of radioactive material (manipulators);
- 7) Equipment for the handling of heavy loads (minimum one tonne);
- 8) A personal alarm dosimeter.

c) Premises:

- 1) A proof of ownership of the facility intended for radioactive waste storage or another valid document confirming the right to use the facility.

d) Specific documentation:

- 1) A safety case for the waste storage facility in accordance with the applicable regulation;
- 2) A security plan in accordance with applicable regulations.

Article 42

**(Collecting spent and disused sealed radiation sources  
in original devices or containers)**

A legal person performs the tasks of collecting spent and disused sealed radiation sources in original devices or containers which are then transferred to the operator of the central storage facility if it meets the following special licensing requirements:

a) Employed qualified personnel:

- 1) Two graduates of at least four-year technical high school and appropriate radiation protection training conducted in accordance with applicable regulations.

b) Own equipment:

- 1) Tools and equipment for work;
- 2) A portable dosimeter for measuring the dose rate and identifying the radiation source;
- 3) A personal alarm dosimeter;
- 4) Personal protective equipment;
- 5) A transport container.

c) Specific documentation:

- 1) A written proof of cooperation with the operator of the central storage facility.

Article 43

**(Controlling the presence of radioactive material  
in scrap metal shipments)**

A legal person performs the tasks of detecting the presence of radioactive material in scrap metal shipments if it meets the following special licensing requirements:

- a) Employed qualified personnel:
  - 1) A graduate of at least four-year technical high school with appropriate radiation protection training conducted in accordance with applicable regulations.
- b) Own equipment:
  - 1) Portable or fixed instrumentation for measuring the dose rate;
  - 2) A personal alarm dosimeter.
- c) Specific documentation:
  - 1) Documented work procedures for the control of shipments, approved by the Agency;
  - 2) A form of the report on measurements, approved by the Agency;
  - 3) A written proof of cooperation with the operator of the central storage facility.

Article 44  
**(Protection and quality control  
in intraoral dental radiology)**

A legal person performs the tasks of protection and quality control in intraoral dental radiology if it meets the following special licensing requirements:

- a) Employed qualified personnel:
  - 1) A graduate of a faculty of natural sciences and mathematics – physics department or a faculty of electrical or mechanical engineering, with minimum 240 ECTS and appropriate radiation protection training conducted in accordance with applicable regulations.
- b) Own equipment for workplace monitoring and quality control in intraoral dental radiology:
  - 1) A portable instrument for measuring the dose and dose rate;
  - 2) Equipment for the dosimetry of primary X-ray beam, for anode voltages of 50–120 kV, with an option to assess  $P_{KW}$ ;
  - 3) Equipment for noninvasive measurement of X-ray tube anode voltage of 50–120 kV;
  - 4) Equipment for measuring the base+fog density, speed index, and contrast index;
  - 5) Equipment for measuring the temperature of developers and fixers;
  - 6) Equipment for measuring the exposure time;
  - 7) Equipment for the dosimetry of scattered radiation.
- c) Premises for functional testing and storage of instruments;
- d) Specific documentation:
  - 1) An example of a quality assurance program in intraoral dental radiology.

**PART THREE – DOCUMENTATION: REPORTS AND CERTIFICATES**

Article 45  
**(Issuing and sending documents)**

- (1) Technical services must issue the necessary documentation upon the end user's request, using the forms listed in Article 46 in the deadlines referred to in Article 53.
- (2) Technical services must send the documentation to the Agency using the forms listed in Article 46 in the deadlines referred to in Article 53, in the way and format established by the Agency.
- (3) Technical services must send annual performance reports to the Agency by 28 February the following year.

Article 46  
**(Documentation)**

- (1) Technical services issue the following documents:
  - a) Technical services for radiation safety control, medical physics, and quality control issue the following documents:
    - 1) End-user certificate;
    - 2) Report on radiation safety assessment – for the end user and the Agency;
    - 3) Report on quality control assessment – for the end user and the Agency.
  - b) Other technical services prepare the following documents:
    - 1) Reports for the end-user;
    - 2) Reports for the Agency.
- (2) The reports are prepared using the forms the content and layout of which are established by the Agency and posted on the Agency's official web page.
- (3) During the licensing of a technical service the Agency approves the forms that are not posted on the Agency's official web page.
- (4) The holder of authorization for practice involving radiation sources must post the radiation safety certificate and the quality control certificate on a visible spot in the room where the sources are used or stored, and it must keep it legible, which applies to the certificates valid longer than six months from the issuance date.

Article 47  
**(Certificate)**

- (1) Technical services for radiation safety control issue a radiation safety certificate:
  - a) for the radiation source used to carry out a practice involving sources;
  - b) for the premises where the source is used for a practice involving sources;
  - c) for the premises where the sources are stored.
- (2) Technical services for medical physics, and protection and quality control in intraoral dental radiology issue a quality control certificate for radiation sources for the parameters that are measured within six month periods and longer.

- (3) The certificates referred to in paragraphs (1) and (2) are a proof that a radiation source and premises meet the provisions of relevant applicable regulations.
- (4) The technical service may not issue the certificate for a radiation source or premises if a source or premises do not meet the provisions of relevant applicable regulations.
- (5) The layout and content of the certificates of radiation safety, quality control, and protection and quality control in intraoral dental radiology are shown in Annex 3.

#### Article 48

##### **(Report on radiation safety assessment)**

- (1) The technical service must assess whether a radiation source or premises meet the relevant provisions of applicable radiation safety regulations.
- (2) The technical service must prepare the first report on radiation safety assessment for radiation source or premises, which must indicate:
  - a) whether the radiation source or premises meet the provisions of applicable radiation safety regulations;
  - b) if the radiation source or premises fail to meet the provisions of applicable radiation safety regulations, the recommendations to ensure compliance with the provisions of these regulations.
- (3) If there are no recommendations in the first report, the technical service must issue the certificate for the radiation source or premises within seven days.
- (4) If there are no recommendations in the first report, the technical service must send the first report on radiation safety assessment to the Agency within seven days after issuing the certificate, indicating the certificate issuance date.
- (5) If the first report contains the recommendations referred to in paragraph (2)b, the technical service must send the report to the legal person within seven days and a copy of the report to the inspectorate of the Agency.
- (6) The inspectorate of the Agency issues a procedural decision on implementing corrective actions to address the nonconformities indicated in the first report on radiation safety assessment referred to in Article (5).
- (7) After the implementation of corrective actions based on the procedural decision referred to in Article (6), the legal person sends the relevant information to the inspectorate of the Agency and the technical service that conducted the first radiation safety assessment.
- (8) After receiving the information referred to in Article (7), the technical service verifies it and makes the final report on radiation safety assessment.
- (9) If the final report on radiation safety assessment states that the recommendations are partially implemented, the technical service must immediately send a copy of the final report to the Agency.

#### Article 49

**(Final report on radiation safety assessment – when all recommendations are met)**

- (1) The final assessment report is made if the first report contains recommendations.
- (2) The technical service must make the final report proving that all recommendations are met and issue the radiation safety certificate for radiation source or premises to the user.
- (3) The technical service must send a copy of the final report to the Agency within seven days after issuing the certificate, indicating the certificate issuance date.

Article 50

**(Report on quality control assessment)**

- (1) The technical service must assess whether a radiation source meets the relevant provisions of applicable quality control regulations.
- (2) The technical service must prepare the first report on quality control assessment for the radiation source, which must indicate:
  - a) whether the radiation source meets the provisions of applicable quality control regulations;
  - b) if the radiation source fails to meet the provisions of applicable quality control regulations, the recommendations to ensure compliance with the provisions of these regulations.
- (3) If there are no recommendations in the first report, the technical service must issue the quality control certificate for the radiation source within seven days.
- (4) If there are no recommendations in the first report, the technical service must send the first report on quality control assessment to the Agency within seven days after issuing the certificate, indicating the certificate issuance date.
- (5) If the first report contains the recommendations referred to in paragraph (2)b, the technical service must send the report to the legal person within seven days and a copy of the report to the inspectorate of the Agency.
- (6) The inspectorate of the Agency issues a procedural decision on implementing corrective actions to address the nonconformities indicated in the first report on quality control assessment referred to in Article (5).
- (7) After the implementation of corrective actions based on the procedural decision referred to in Article (6), the legal person sends the relevant information to the inspectorate of the Agency and the technical service that conducted the first quality control assessment.
- (8) After receiving the information referred to in Article (7), the technical service verifies it and makes the final report on quality control assessment.
- (9) If the final report on quality control assessment states that the recommendations are partially met, the technical service must immediately send a copy of the final report to the Agency.

Article 51

**(Final report on quality control assessment – when all recommendations are met)**

- (1) The final assessment report is made if the first report contains recommendations
- (2) The technical service must make the final report proving that all recommendations are met and issue the quality control certificate for radiation source to the user.
- (3) The technical service must send a copy of the final report to the Agency within seven days after issuing the certificate, indicating the certificate issuance date.

Article 52

**(Certificate validity periods)**

- (1) The certificate validity periods are:
  - a) For the radiation safety control of sources and premises for use and storage:
    1. For unsealed radiation sources – six months.
    2. For sealed radiation sources:
      - i. Categories 1, 2 and 3: one year;
      - ii. Categories 4 and 5: two years.
    3. For radiation generators:
      - i. Category 1: one year;
      - ii. Category 2: two years;
      - iii. Category 3: three years.
  - b) For quality control in medical application:
    - i. for the measurements in less than six-month periods the certificate is not issued;
    - ii. for the measurements in six-month periods: six months;
    - iii. for the measurements in one-year periods: one year;
    - iv. for the measurements in two-year periods: two years;
    - v. for the measurements in three-year periods: three years.
  - c) The certificate becomes invalid in case of changes with a considerable impact on radiation safety and quality control in the facility, as follows:
    - 1) A modification of the work process;
    - 2) Introduction or relocation of equipment;
    - 3) A modification of system structures or their components;
    - 4) Source replacement or changing the premises.

Article 53

**(Reporting deadlines)**

The technical services referred to in this Article must send a report on completed tasks to the end-user and the Agency within the following deadlines:

- a) Individual monitoring of exposed workers:
  - 1) To the end-user: seven days upon completed activity;
  - 2) To the Agency: seven days upon completed activity.
- b) Installation, servicing and dismantling of devices:
  - 1) To the end-user: seven days upon completed activity;
  - 2) To the Agency: seven days upon completed activity.
- c) Radiation monitoring of the environment:
  - 1) To the end-user: seven days upon completed activity;
  - 2) To the Agency: immediately in case of exceeding the radionuclide content limits specified in the applicable regulation.
- d) Medical surveillance of exposed workers:
  - 1) To the end-user: seven days upon completed activity;
  - 2) To the Agency: seven days upon completed activity.
- e) Calibration of measuring instruments and/or individual monitoring equipment:
  - 1) To the end-user: seven days upon completed activity;
  - 2) To the Agency: quarterly.
- f) Training in ionizing radiation protection:
  - 1) To the end-user: seven days upon completed training;
  - 2) To the Agency: seven days upon completed training.
- g) Operator of the central storage facility for radioactive waste:
  - 1) To the end-user: seven days upon completed activity;
  - 2) To the Agency: seven days upon completed activity.
- h) Collecting spent and disused sealed radiation sources in original devices or containers:
  - 1) To the end-user: seven days upon completed activity;
  - 2) To the Agency: seven days upon completed activity.
- i) Controlling the presence of radioactive material in scrap metal shipments:
  - 1) To the consignor:
    - i. seven days upon completed activity;
    - ii. immediately in case of detecting the presence of radioactive material in a scrap metal shipment.

- 2) To the Agency: within 24 hours in case of detecting the presence of radioactive material in a scrap metal shipment.

Article 54  
**(Record keeping)**

Technical services must keep records on:

- a) radiation sources used for the service practice;
- b) issued certificates;
- c) issued reports on conducted activities.

**PART FOUR – COMMITTEE**

Article 55  
**(Establishment of committee)**

- (1) The Agency director establishes an expert committee to verify compliance with the requirements for the technical service tasks referred to in this regulation within seven days after the application for technical service authorization has been submitted.
- (2) The composition of the committee must be competent to assess the fulfillment of requirements for each individual technical service.

Article 56  
**(Work of the committee)**

- (1) The committee works and makes decisions at sessions at which all committee members must be present.
- (2) Within 21 days after the establishment the committee must determine the facts on the spot, at the applicant's premises.
- (3) The committee makes an assessment record on the fulfillment of requirements for the technical service, makes a proposal of the decision on authorization and submits it to the Agency director within three days from the fact-finding.
- (4) The Agency director issues a procedural decision on granting or refusing the authorization within seven days upon receiving the committee's proposal of the decision.

Article 57  
**(Complaint)**

- (1) The legal person whose application for licensing a technical service is rejected has the right to complain.
- (2) The complaint procedure is conducted in accordance with administrative procedure principles.

**PART FIVE – OBLIGATIONS OF TECHNICAL SERVICES AND SANCTIONS**

Article 58

### **(Reporting obligation)**

The authorized technical service must notify the Agency of all changes regarding the fulfillment of the requirements laid down in this regulation that occur after the licensing.

#### Article 59

### **(Intercomparison)**

The authorized technical services for individual monitoring of exposed workers and for radiation monitoring of the environment must participate in an intercomparison of measurement results at least once in three years.

#### Article 60

### **(Obligation to perform tasks)**

- (1) The authorized technical service must perform tasks from its scope of work as instructed by the inspectorate of the Agency.
- (2) The legal person/authorization holder for carrying out a practice involving radiation sources must act in accordance with the expert advice of a qualified expert.

#### Article 61

### **(Accreditation)**

- (1) The technical services must obtain an appropriate accreditation (BAS EN ISO/IEC 17025, BAS EN ISO/IEC 17020, etc.) from the relevant institution within three years from the date of entering this regulation into force.
- (2) The protocols referred to in Article 26(1) point n) must be used until the appropriate accreditation referred to in paragraph (1) is obtained.

#### Article 62

### **(Sanctions)**

If authorized technical services fail to comply with the provisions of this regulation, they will be sanctioned in accordance with the Law on Radiation and Nuclear Safety in Bosnia and Herzegovina (Official Gazette of BiH 88/07).

## **PART SIX – TRANSITIONAL AND FINAL PROVISIONS**

#### Article 63

### **(Cessation of validity)**

- (1) The entering of this regulation into force supersedes the Decision on the requirements that must be met by legal persons to carry out the practices of technical services (Official Gazette of BiH 13/11).
- (2) The entering of this regulation into force supersedes Articles 22 and 40 of the Regulation on notification and authorization of practices involving ionizing radiation sources (Official Gazette of BiH 66/10) and the Form no. 4 from Annex 4 to that regulation.

Article 64  
**(Certificates)**

- (1) Technical services for radiation protection may be authorized without submitting certificates of training in radiation protection for its personnel within one year from the effective date of this regulation.
- (2) If a technical service is authorized without submitting the training certificates, it must send relevant certificates to the Agency within one year from the effective date of this regulation.

Article 65  
**(Operator)**

If no legal person obtains the licence for the operator of the central storage facility for radioactive waste within one year from the effective date of this regulation, the Agency will take further action in accordance with its legal powers.

Article 66  
**(Decision)**

All licences for the practices of technical services issued on the basis of the Decision on the requirements for legal persons to perform the practice of technical services (Official Gazette of BiH 13/11) remain in force until the expiry date indicated on the licence.

Article 67  
**(Entering into force)**

This regulation enters into force on the eighth day following the date of its publication in the Official Gazette of BiH.

No. 04-02-2-880/15  
3 August 2015  
Sarajevo

**DIRECTOR**  
Emir Dizdarević

**ANNEXES**

**ANNEX 1. FORM**

State Regulatory Agency for Radiation and Nuclear Safety  
Tel.: 033-726-300, Fax: 033-726-301, E-mail: info@darns.gov.ba

## FORM

### FOR THE AUTHORIZATION OF TECHNICAL SERVICE FOR IONIZING RADIATION PROTECTION

**Applicant** .....

.....

**Applicant's address** .....

Telephone ..... Fax .....

E-mail .....

Contact person and telephone no. ....

#### Technical service for radiation protection:

1. Radiation safety control .....
  
2. Medical physics
  - a. Medical physics in radiotherapy.....
  - b. Medical physics in nuclear medicine.....
  - c. Medical physics in diagnostic radiology .....
  
3. Individual monitoring of exposed workers.....
  
4. Installation, servicing and dismantling of devices
  - a. Installation, servicing and dismantling of devices that generate or use radiation in:
    - i. Medicine and veterinarian science.....
    - ii. Dental medicine.....
    - iii. Industry .....
    - iv. Control of luggage and goods.....
  
  - b. Installation, servicing and dismantling of devices containing sealed sources in:
    - i. Medicine and veterinarian science.....
    - ii. Industry .....
    - iii. Testing laboratories .....
    - iv. Ionizing smoke detectors .....
  
5. Radiation monitoring of the environment
  - i. Analysis of radioactivity in the environment.....
  - ii. Measurement of radon and radon progeny concentrations in the air..
  - iii. Measurement of radon concentration in the water .....

- 6. Medical surveillance of exposed workers .....
- 7. Calibration of measuring instruments and/or individual monitoring equipment.....
- 8. Training in ionizing radiation protection .....
- 9. Operator of the central storage facility for radioactive waste.....
- 10. Collecting spent and disused sealed sources in original devices  
or containers .....
- 11. Controlling the presence of radioactive material in scrap metal shipments .....
- 12. Protection and quality control in intraoral dental radiology .....

Date                      (stamp)                      Signature of the responsible person in the legal person

Note: Mark the appropriate box  with X

**ANNEX 2 LAYOUT OF THE LICENCE/REGISTRATION**

**BOSNA I HERCEGOVINA**  
Državna regulatorna/regulativna  
agencija za radijacijsku i  
nuklearnu sigurnost



**БОСНА И ХЕРЦЕГОВИНА**  
Државна регулаторна  
агенција за радијациону и  
нуклеарну безбједност

---

**State Regulatory Agency for Radiation and Nuclear Safety**

---

Licence no:

Pursuant to Article 8(h) of the Law on Radiation and Nuclear Safety in Bosnia and Herzegovina (Official Gazette of BiH 88/07) and Article 3(1) of the Regulation on technical services for ionizing radiation protection, hereby is granted the

**L I C E N C E /**  
**R E G I S T R A T I O N**

---

(Name of the licensee/registrant)

for carrying out the practice of technical service for radiation protection

---

(type of technical service)

Expiry date: \_\_\_\_\_

Sarajevo, \_\_\_\_\_ (date)

DIRECTOR

---

(stamp)

**ANNEX 3**

**CERTIFICATE  
of radiation safety**

**Certificate no.**

**Certificate issuance date:** /

|   |  |
|---|--|
| Technical service:  |  |
| Technical service licence number:   |  |
| Name of the radiation protection expert:  |  |
| Number of the radiation protection expert's certificate                                   |  |
| Type of radiation safety assessment of premises and the radiation source (first/regular): |  |
| Name of the legal person/authorization holder:  |  |
| User authorization number:  |  |
| Contact person:   |  |
| Telephone/Fax:  |  |
| Address:  |  |
| Premises intended for (diagnostics/therapy/industry):                                     |  |
| Manufacturer of the radiation source:   |  |
| Model:  |  |
| Serial number of the radiation source:  |  |

**The premises and the radiation source comply with:**

1. Regulation on ..... (Official Gazette of BiH, no. ...)
2. Regulation on ..... (Official Gazette of BiH, no. ...)
3. Regulation on ..... (Official Gazette of BiH, no. ...)

Date and number of the report on radiation safety assessment of premises and radiation sources:

Name of radiation protection expert and signature:

Responsible person in the legal person and signature:

**This certificate is valid until / .**

**The next radiation safety assessment will be on .....  
(stamp)**

**CERTIFICATE**  
**of quality control**

**Certificate no.:**

**Certificate issuance date:**    /    /

|   |  |
|---|--|
| Technical service:  |  |
| Technical service licence number:   |  |
| Name:<br>(Medical physics specialist in case of medical physics services) |  |
| Quality control (first/regular):  |  |
| Name of the legal person/authorization holder:                            |  |
| User authorization number:  |  |
| Contact person:   |  |
| Telephone/Fax:  |  |
| Address:  |  |
| Application of the radiation source<br>(diagnostics/therapy...):          |  |
| Manufacturer of the radiation source:                                     |  |
| Model:  |  |
| Serial number of the radiation source:                                    |  |

**The radiation source complies with the provisions of:**

1. Regulation on ..... (Official Gazette of BiH, no. ...)

Date and number of the report on assessment of quality control:

Name of medical physics specialist/B.Sc. in Physics/Engineering and signature:

Responsible person in the legal person and signature:

**This certificate is valid until    /    .**

**The next quality control assessment will be on .....**  
(stamp)

## CERTIFICATE

### of protection and quality control in intraoral dental radiology

**Certificate no.:**

**Certificate issuance date:**    /    /

|  |  |
|--|--|
| Technical service:   |  |
| Technical service licence number:  |  |
| Name:<br>(B.Sc. in Physics/Engineering for quality control in<br>intraoral dental radiology) |  |
| Quality control (first/regular):   |  |
| Name of the legal person/authorization holder:   |  |
| User authorization number:   |  |
| Contact person:  |  |
| Phone/Fax:   |  |
| Address:   |  |
| Manufacturer of the radiation source:  |  |
| Model:   |  |
| Serial number of the radiation source:   |  |
| Workplace monitoring:  |  |

**The premises and the radiation source comply with the provisions of:**

1. Regulation on ..... (Official Gazette of BiH, no. ...)
2. Regulation on ..... (Official Gazette of BiH, no. ...)

Date and number of the report on assessment of protection and quality control:

Name of B.Sc. in Physics/Engineering and signature:

Responsible person in the legal person and signature:

**This certificate is valid until    /    .**

**The next quality control assessment will be on .....**  
(stamp)