Technical Regulation

Categorization of Sources of Ionizing Radiation, creation and maintenance of registry of authorization, sources of ionization radiation and radioactive waste

Paragraph 1. The Scope of Regulation and Purpose

1. This Technical Regulation defines the procedure for creating and maintaining a registry for sources of ionizing radiation, radioactive waste and authorization governed by Georgian law on "nuclear and radioactive safety", and also creates a basis for categorization for sources of ionizing radiation.

2. Technical regulation is created in accordance with requirements of the law of Georgia «On Nuclear and Radioactive Safety» and extends to all types of Sources of Ionizing Radiation existing in Georgia with the exception of those excluded or exempted by law of sources.

3. The goal of the technical regulation is:

A) The establishment of a legal framework for creation of a registry for Sources of Ionizing Radiation and radioactive Waste, authorization and its management procedures

B) introduction of a system of categorization of ionizing radiation sources, which determines their handling, control and physical protection conditions.

4. Registration of nuclear materials as sources of ionizing radiation are carried out in accordance with procedures of this technical regulation. According to the signed safeguard agreement between Georgia and IAEA under the Convention on nonproliferation of nuclear weapons and according to the additional protocol of this agreement with respect to nuclear materials, stipulations of these agreements for procedures of accounting and control which are defined in the by order of minister of Georgia for environmental and natural resources protection must be applied.

Paragraph 2. Terminology

In the given technical regulation of sources terms have the the following meanings

A) Associated equipment - device which contains and is used for operation of unsealed or sealed radioactive sources;

B) Activity is a physical quantity, which is defined as number of radionuclides in a given energetic level at a given time and determined by the following formula:

$$A=\frac{dN}{dt}$$

Where A- activity, dN — estimated quantity of nuclear decay in a given energy level during time dt. Unit of measurement of activity in the international system of units is the Becquerel (Bq). The offsystem Curie (Ci) is also used. 1 Curie=$3.7*10^{10}$Bq;

C) Sealed radioactive sources - radioactive material hermetically encapsulated, sealed and mechanically strong and resistant;

D) Deterministic effect - Clinical manifestations of harmful biological effects resulting from radiation exposure, for which there is a permissible level, and above which the effect increases with increasing dose;

E) Department - Department of Nuclear and Radiation Safety of the Ministry of Environment and Natural Resources Protection;

F) Immobilization of radioactive sources - Disposal of radioactive waste in a matrix of some substance with the goal of ensuring nuclear and radioactive safety;

G) Radionuclide - an unstable isotope, whose decay is accompanied by ionizing radiation;

H) Ministry- the Ministry of Environment and Natural Resources Protection;

I) Stochastic effect- the effect of radiation on the health of a person for which there is no dose limit and for which the probability is proportional to the dose. With the stochastic effect, it is the probability of expose (risk) but not greater dosage which increases the severity of the biological effect.

J) Unsealed radioactive source - radioactive substance, which is not encapsulated (liquid, powder, gas, solid) and accordingly may leak to the environment and living organisms.

2. Other terms used in this regulation have the same meaning as in the Georgian Law «On Nuclear and Radiation Safety»

Paragraph 3. Basis of Categorization of Sources of Ionizing Radiation

1. Categorization of Sources of Ionizing Radiation applies only to unsealed and sealed radioactive sources and does not apply to x- ray generators of radiation and radioactive waste.

2. Category of radiation sources must be defined at the time of registering for determination of the following parameters:

A) Conditions of security and safety with the goal of minimizing ionizing radiation to the public, environment and personnel, those working with sources;

B) The deterministic effect to human health caused by ionizing radiation exposure.

3. Categorization of ionizing sources depends on activity and using practice.

4. When determining the ionizing source category the following criteria is not provided:

A) The results caused by nuclear and radiation accidents or results caused by illegal actions;

B) Stochastic effects of radiation;

C) Medical exposure of the patient (although the sources of ionization radiation used in these cases are subject to categorization);

Paragraph 4. Categorization of Sources of Ionizing Radiation

1. The Category of unsealed/sealed radioactive sources is defined using the international accepted constant value of D (dangerous value), depending on the hazard of each radionuclide (Annex D-value.doc). The ratio of A / D determines the source category, taking into account the physical condition of the source, where A is the current active source, D - the dangerous value of a radioactive source. In accordance with these criteria, unsealed/sealed radioactive sources are divided into the following categories:

A) if A/D ≥1000, the source is assigned Category I

B) if 1000>A/D>10, the source is assigned Category II

C) if 10≥A/D>1, the source is assigned Category III

D) if 1≥A/D>0.01, the source is assigned Category IV

E) if 0.01≥A/D>A/E, the source is assigned Category V (E is the exempted value), below which sources of ionizing radiation not covered by regulatory control.

2. If radionuclides mixing occurred during storage, manufacturing or other operations, use the following formula to determine the category:

$$A / D = \sum_n \frac{\sum_i A_{i,n}}{D_n}$$

Where $A_{i,n}$ is n^{th} radionuclide's separate i^{th} source activity, D_n - the value of D_n source.

4. Radioactive Sources in Category I,II and III are high activity sources, which require additional safety and special conditions related to physical protection (security);

5. The Ministry has the right to stipulate on specific use of sources for nuclear and radioactive activity and to assign a higher or lower category other than the category provided for in article 1 and 2 of this paragraph

Paragraph 5. Registry of Sources of Ionizing Radiation and activity related to them.

1. To obtain a license, applicants must submit to the department documents prescribed by the law of Georgia on "Licenses and Permits" and "On Nuclear and Radiation Safety", after which the Department will register the applicant and begin the authorization of its activities. When deciding to issue or cancel a license, the department registers the applicant's ownership of generators of ionizing radiation. Registration of unsealed and sealed radioactive sources and associated equipments is carried out on the basis of permission within the framework of issued licenses for import of sources or in accordance of Law, transferred to licensed organization from other licensed person or entity.

2. After obtaining of sources of ionizing radiation (or transmission) the license holder should notify the ministry about the source within 10 days, in accordance with Annex (check-list.zip) of the this Technical Regulations.

3. In the case of withdrawal from use of unsealed or sealed sources the license holder is obliged to notify the Ministry within a 10-day period, about transfer the source back to manufacturer according the appropriate permission or radioactive waste central storage facility.

4. When ceasing use of a generator of ionizing radiation or associated devices, the license holder is obliged to notify the ministry within 10 days;

5. In the framework of licensing, registration of additional sources of ionizing radiation is carried out by the license holder on the basis of notification set by the legislation of Georgia and/or on the basis of inspection results.

6. For registering sources of ionizing radiation, the ministry assigns a registration number which is unique and fixed regardless of changes of the source status.

7. On the basis of the license holder notification, the ministry assigns sources of ionizing radiation/associated equipment the following registration number format: S-xxxx- for sealed sources, U-xxxx-for unsealed sources, A-xxxx-for associated equipment, but on the basis of documents submitted by the license holder/applicant for generators of ionizing radiation are assigned a registration number format of G-xxxx.

8. The department submits to license holders information about the registration number of sources of ionizing radiation on the basis of which the license holder produces a labels for sources of ionizing radiation and their associated equipments.

9. Processing, storing and updating of all information related to registration of sources of ionizing radiation is conducted by the department.

10. The departmental register of sources of ionizing radiation contains all information about the sources of ionizing radiation

11. In case of an orphan source of ionizing radiation the department is obligated to identify and register itself.

12. Sources withdrawn from illicit trafficking, are registered in accordance with the legislation of Georgia, after they will be free from status of evidence.

13. In the case of license holders importing or purchasing locally producing radiopharmaceuticals, which are defined as unsealed radioactive sources, registration subject is radionuclide and its total activity over a period of time as determined by the permission.

14. Information about sources of ionizing radiation and their characteristics according to article 5 paragraph 2 of the given technical regulation is kept by the license holder of the site and will be verified by the ministry during inspection.

15. If unsealed/sealed radioactive sources contain more than one undivided radionuclides with respect to technical characteristics of the source, then the departmental register records the radionuclide with the longest life, the activity of which is greater than the other, although the source category is calculated by the method specified in article 4 paragraph 2 of the given technical regulation. The remaining radionuclides present in the source must be recorded in a list of radionuclides in the form of additional information.

Paragraph 6 — Registration of Radioactive Waste

1. Registration of Radioactive Waste is based on the following classification

A) Exempt waste (EM)

B) Very short life waste (VSLW)

C) Very low level waste (VLLW)

D) Intermediate level waste (ILW)

E) high Level Waste (HLW)

2. Each of the conditions of radioactive waste are assigned a registration number by the Ministry indicating a class of radioactive waste (e.i. VLLW-xxx).

3. During registration of radioactive waste the operator must take into account characteristics of radioactive waste in accordance with annex 2.

Paragraph 7. Departmental Register of Authorization

1.The department in the appropriate departmental registry carries out registration of results for every stage (application, reviewing, deciding to grant (issue) or cancel a license or permit), associated with authorization of nuclear and radioactive activities as defined by the law of Georgia on “Nuclear and radioactive Safety” and with specifying types of nuclear and radioactive activities, stipulated by licenses and types of permits.

2. Information in the departmental registry must include:

A) Official data of the physical or legal person for the license applicant / permit (trade name, organizational-legal form, address (legal and/or factual), the identification code, the data of the license applicant individual or the legal entity, the data is responsible for radiation safety, additional information) ;

B) Registration number assigned by the Ministry for the application.

C) ID number issued by the Ministry for the license/ permit certificate

D) Types of the nuclear and radiation activities as defined by the law on "Nuclear and Radiation Safety";

E) Expiration date of the authorization

F) Description of the each stages of authorization, including dates;

G) A list of sources of ionizing radiation used in radiation activities, for which a license / permit is being requested, or a list of sources of ionizing radiation and their use which, are being further requested into an existing license;

H) Any other information associated with authorization

3. The electronic Departmental Authorization must contain electronic versions of all appropriate documentation of the license holder which is associated with physical protection, radioactive safety, and their activities.

Paragraph 8. Production of a Departmental Registry

1. Production of a departmental registry of sources of ionizing radiation and radioactive waste is done in electronic form but the register of departmental authorization is kept in both written and electronic form, and their updating is done on the basis of information received during authorization and inspection. In the written departmental register authorization of issued licenses and permits is confirmed by the signature of a physical or legal entity holding the license or another authorized person, and, if applicable, with the seal of the legal entity.

2. The Electronic Departmental Register of Authorization must include comprehensive information about the source of ionizing radiation, radioactive waste (in accordance with Annex No 2-form of the registration of sources of ionizing radiation and radioactive waste) and about licenses/permits. By request of the departmental register, any changes of information must be recorded in the departmental register.

3. Removal of data from the electronic departmental registry is prohibited

4. Every 3 months a copy should be made of protected information in the electronic departmental Registry

Paragraph 9. The obligations of the parties related to the production of a departmental registry of authorization, ionizing radiation sources and radioactive waste.

1. The Department is required to

A) Collect, register and pull all information into a unified system required for a departmental registry;

B) Introduce to the departmental register any changes made by a legal entity in the framework nuclear and radiological activities;

B) To comply with the safety information of departmental registry, documents and backup archives;

Г) To comply with confidentiality of information according to Georgian legislation.

2. Obligations of the License holder

A) Documented and saved all information related to it's nuclear and radiation activities, and those possessing sources of ionizing radiation and radioactive waste.

B) Label sources of ionizing radiation with the governing number assigned by the department

B.a) for unsealed/sealed radioactive sources - on the surface of the protective container or associated equipment;

B.c) for generators of ionizing radiation and associated equipments - on the interior surface of the apparatus

B. d) for radioactive waste – on the surface of the package

B) To submit department with photographs of the sources of ionizing radiation showing a visible label of the registration number.

Paragraph 10. Access to information and security

1. Recorded information of the departmental registry is confidential;
2. The License holder may familiarize themselves with information from the departmental registry that concerns only his own sources, waste and issued licenses/permits.
3. Transfer of recorded information in the departmental registry is possible in accordance with existing requirements of Georgian of international and national laws.

4. The decrees of the ministry is determined administrator/operators of the departmental registry, their function and level of access to departmental registers of employees of the Ministry.

5. Information in the electronic departmental registry must be protected in accordance with legal requirements.

6. Dissemination of departmental registry, except in cases provided for in paragraph 3 of this section, are prohibited.

Paragraph 11: Accuracy of information

The ministry may check information provided by the licensee or applicant and on this basis, to carry out inspection and, if necessary, update the data in the departmental registry.

Attachment 1

D-Values

Radionuclide	D-value	
	TBq	Ci
H-3	2.E+03	5.E+04
Be-7	1.E+00	3.E+01
Be-10	3.E+01	8.E+02
C-11	6.E-02	2.E+00
C-14	5.E+01	1.E+03
N-13	6.E-02	2.E+00
F-18	6.E-02	2.E+00
Na-22	3.E-02	8.E-01
Na-24	2.E-02	5.E-01
Mg-28	2.E-02	5.E-01
Al-26	3.E-02	8.E-01
Si-31	1.E+01	3.E+02
Si-32+	7.E+00	2.E+02
P-32	1.E+02	3.E+03
P-33	2.E+02	5.E+03
S-35	6.E+01	2.E+03
Cl-36	2.E+01	5.E+02
Cl-38	5.E-02	1.E+00
Ar-39	3.E+02	8.E+03
Ar-41	5.E-02	1.E+00
K-42	2.E-01	5.E+00
K-43	7.E-02	2.E+00
Ca-45	1.E+02	3.E+03
Ca-47+	6.E-02	2.E+00
Sc-44	3.E-02	8.E-01
Sc-46	3.E-02	8.E-01
Sc-47	7.E-01	2.E+01
Sc-48	2.E-02	5.E-01
Ti-44+	3.E-02	8.E-01
V-48	2.E-02	5.E-01
V-49	2.E+03	5.E+04
Cr-51	2.E+00	5.E+01
Mn-52	2.E-02	5.E-01
Mn-54	8.E-02	2.E+00
Mn-56	4.E-02	1.E+00
Fe-52+	2.E-02	5.E-01
Fe-55	8.E+02	2.E+04
Fe-59	6.E-02	2.E+00
Fe-60+	6.E-02	2.E+00
Co-55+	3.E-02	8.E-01
Co-56	2.E-02	5.E-01
Co-57	7.E-01	2.E+01
Co-58	7.E-02	2.E+00
Co-58m+	7.E-02	2.E+00
Co-60	3.E-02	8.E-01
Ni-59	1.E+03	3.E+04
Ni-63	6.E+01	2.E+03
Ni-65	1.E-01	3.E+00
Cu-64	3.E-01	8.E+00
Cu-67	7.E-01	2.E+01
Zn-65	1.E-01	3.E+00
Zn-69	3.E+01	8.E+02
Zn-69m+	2.E-01	5.E+00
Ga-67	5.E-01	1.E+01
Ga-68	7.E-02	2.E+00
Ga-72	3.E-02	8.E-01
Ge-68+	7.E-02	2.E+00
Ge-71	1.E+03	3.E+04
Ge-77+	6.E-02	2.E+00
As-72	4.E-02	1.E+00
As-73	4.E+01	1.E+03
As-74	9.E-02	2.E+00
As-76	2.E-01	5.E+00
As-77	8.E+00	2.E+02
Se-75	2.E-01	5.E+00
Se-79	2.E+02	5.E+03
Br-76	3.E-02	8.E-01
Br-77	2.E-01	5.E+00
Br-82	3.E-02	8.E-01
Kr-81	3.E+01	8.E+02
Kr-85	3.E+01	8.E+02
Kr-87	9.E-02	2.E+00
Rb-81	1.E-01	3.E+00
Rb-83	1.E-01	3.E+00
Rb-84	7.E-02	2.E+00
Rb-86	7.E-01	2.E+01
Sr-82	6.E-02	2.E+00
Sr-85	1.E-01	3.E+00
Sr-85m+	1.E-01	3.E+00
Sr-89	2.E+01	5.E+02
Sr-90+	1.E+00	3.E+01
Sr-91+	6.E-02	2.E+00
Sr-92+	4.E-02	1.E+00
Y-87+	9.E-02	2.E+00
Y-88	3.E-02	8.E-01

Y-90	5.E+00	1.E+02
Y-91	8.E+00	2.E+02
Y-92	2.E-01	5.E+00
Y-93	6.E-01	2.E+01
Zr-88+	2.E-02	5.E-01
Zr-95+	4.E-02	1.E+00
Zr-97+	4.E-02	1.E+00
Nb-93m	3.E+02	8.E+03
Nb-94	4.E-02	1.E+00
Nb-95	9.E-02	2.E+00
Nb-97	1.E-01	3.E+00
Mo-93+	3.E+02	8.E+03
Mo-99+	3.E-01	8.E+00
Tc-96	3.E-02	8.E-01
Tc-96m+	3.E-02	8.E-01
Tc-97m	4.E+01	1.E+03
Tc-98	5.E-02	1.E+00
Tc-99	3.E+01	8.E+02
Ru-97	3.E-01	8.E+00
Ru-103+	1.E-01	3.E+00
Ru-105+	8.E-02	2.E+00
Ru-106+	3.E-01	8.E+00
Rh-99	1.E-01	3.E+00
Rh-101	3.E-01	8.E+00
Rh-102	3.E-02	8.E-01
Rh-103m	9.E+02	2.E+04
Rh-105	9.E-01	2.E+01
Pd-103+	9.E+01	2.E+03
Pd-109	2.E+01	5.E+02
Ag-105	1.E-01	3.E+00
Ag-111	2.E+00	5.E+01
Cd-109	2.E+01	5.E+02
Cd-113m	4.E+01	1.E+03
Cd-115+	2.E-01	5.E+00
Cd-115m	3.E+00	8.E+01
In-111	2.E-01	5.E+00
Sn-113+	3.E-01	8.E+00
Sn-119m	7.E+01	2.E+03
Sn-121m+	7.E+01	2.E+03
Sn-123	7.E+00	2.E+02
Sn-125	1.E-01	3.E+00
Sn-126+	3.E-02	8.E-01
Sb-122	1.E-01	3.E+00
Sb-124	4.E-02	1.E+00
Sb-125+	2.E-01	5.E+00
Sb-126	2.E-02	5.E-01
Te-121	1.E-01	3.E+00
Te-121m+	1.E-01	3.E+00
Te-125m	1.E+01	3.E+02
Te-127	1.E+01	3.E+02
Te-127m+	3.E+00	8.E+01
Te-129	1.E+00	3.E+01
Te-129m+	1.E+00	3.E+01
Te-131m+	4.E-02	1.E+00
Te-132+	3.E-02	8.E-01
I-123	5.E-01	1.E+01
I-124	6.E-02	2.E+00
I-125	2.E-01	5.E+00
I-126	1.E-01	3.E+00
I-131	2.E-01	5.E+00
I-132	3.E-02	8.E-01
I-133	1.E-01	3.E+00
I-134	3.E-02	8.E-01
I-135	4.E-02	1.E+00
Xe-122	6.E-02	2.E+00
Xe-123+	9.E-02	2.E+00
Xe-127	3.E-01	8.E+00
Xe-131m	1.E+01	3.E+02
Xe-133	3.E+00	8.E+01
Xe-135	3.E-01	8.E+00
Cs-129	3.E-01	8.E+00
Cs-131	2.E+01	5.E+02
Cs-132	1.E-01	3.E+00
Cs-134	4.E-02	1.E+00
Cs-136	3.E-02	8.E-01
Cs-137+	1.E-01	3.E+00
Ba-131+	2.E-01	5.E+00
Ba-133	2.E-01	5.E+00
Ba-140+	3.E-02	8.E-01
La-137	2.E+01	5.E+02
La-140	3.E-02	8.E-01
Ce-139	6.E-01	2.E+01
Ce-141	1.E+00	3.E+01
Ce-143+	3.E-01	8.E+00
Ce-144+	9.E-01	2.E+01
Pr-142	1.E+00	3.E+01
Pr-143	3.E+01	8.E+02
Nd-147+	6.E-01	2.E+01
Nd-149+	2.E-01	5.E+00
Pm-143	2.E-01	5.E+00
Pm-144	4.E-02	1.E+00
Pm-145	1.E+01	3.E+02
Pm-147	4.E+01	1.E+03
Pm-149	6.E+00	2.E+02

Pm-151	2.E-01	5.E+00
Sm-145+	4.E+00	1.E+02
Sm-151	5.E+02	1.E+04
Sm-153	2.E+00	5.E+01
Eu-147	2.E-01	5.E+00
Eu-148	3.E-02	8.E-01
Eu-149	2.E+00	5.E+01
Eu-150b	2.E+00	5.E+01
Eu-150a	5.E-02	1.E+00
Eu-152	6.E-02	2.E+00
Eu-154	6.E-02	2.E+00
Eu-155	2.E+00	5.E+01
Eu-156	5.E-02	1.E+00
Gd-146+	3.E-02	8.E-01
Gd-148	4.E-01	1.E+01
Gd-153	1.E+00	3.E+01
Gd-159	2.E+00	5.E+01
Tb-157	1.E+02	3.E+03
Tb-158	9.E-02	2.E+00
Tb-160	6.E-02	2.E+00
Dy-159	6.E+00	2.E+02
Dy-165	3.E+00	8.E+01
Dy-166+	1.E+00	3.E+01
Ho-166	2.E+00	5.E+01
Er-169	2.E+02	5.E+03
Er-171	2.E-01	5.E+00
Tm-167	6.E-01	2.E+01
Tm-170	2.E+01	5.E+02
Tm-171	3.E+02	8.E+03
Yb-169	3.E-01	8.E+00
Yb-175	2.E+00	5.E+01
Lu-172	4.E-02	1.E+00
Lu-173	9.E-01	2.E+01
Lu-174	8.E-01	2.E+01
Lu-177	2.E+00	5.E+01
Hf-172+	4.E-02	1.E+00
Hf-175	2.E-01	5.E+00
Hf-181	1.E-01	3.E+00
Hf-182+	5.E-02	1.E+00
Ta-178a	7.E-02	2.E+00
Ta-179	6.E+00	2.E+02
Ta-182	6.E-02	2.E+00
W-178	9.E-01	2.E+01
W-181	5.E+00	1.E+02
W-185	1.E+02	3.E+03
W-187	1.E-01	3.E+00
W-188+	1.E+00	3.E+01
Re-184	8.E-02	2.E+00
Re-184m+	0.E+00	0.E+00
Re-186	4.E+00	1.E+02
Re-188	1.E+00	3.E+01
Re-189	1.E+00	3.E+01
Os-185	1.E-01	3.E+00
Os-191	2.E+00	5.E+01
Os-191m+	1.E+00	3.E+01
Os-193	1.E+00	3.E+01
Os-194+	7.E-01	2.E+01
Ir-189	1.E+00	3.E+01
Ir-190	5.E-02	1.E+00
Ir-192	8.E-02	2.E+00
Ir-194	7.E-01	2.E+01
Pt-188+	4.E-02	1.E+00
Pt-191	3.E-01	8.E+00
Pt-193	3.E+03	8.E+04
Pt-193m	1.E+01	3.E+02
Pt-195m	2.E+00	5.E+01
Pt-197	4.E+00	1.E+02
Pt-197m+	0.E+00	0.E+00
Au-193	6.E-01	2.E+01
Au-194	7.E-02	2.E+00
Au-195	2.E+00	5.E+01
Au-198	2.E-01	5.E+00
Au-199	9.E-01	2.E+01
Hg-194+	7.E-02	2.E+00
Hg-197	2.E+00	5.E+01
Hg-203	3.E-01	8.E+00
Tl-200	5.E-02	1.E+00
Tl-201	1.E+00	3.E+01
Tl-202	2.E-01	5.E+00
Tl-204	2.E+01	5.E+02
Pb-201+	9.E-02	2.E+00
Pb-202+	2.E-01	5.E+00
Pb-203	2.E-01	5.E+00
Pb-210+	3.E-01	8.E+00
Pb-212+	5.E-02	1.E+00
Bi-205	4.E-02	1.E+00
Bi-206	2.E-02	5.E-01
Bi-207	5.E-02	1.E+00
Bi-210+	8.E+00	2.E+02
Bi-210m	3.E-01	8.E+00
Bi-212+	5.E-02	1.E+00
Po-210	6.E-02	2.E+00
At-211	5.E-01	1.E+01
Rn-222	4.E-02	1.E+00

Ra-223+	1.E-01	3.E+00
Ra-224+	5.E-02	1.E+00
Ra-225+	1.E-01	3.E+00
Ra-226+	4.E-02	1.E+00
Ra-228+	3.E-02	8.E-01
Ac-225	9.E-02	2.E+00
Ac-227+	4.E-02	1.E+00
Ac-228	3.E-02	8.E-01
Th-227+	8.E-02	2.E+00
Th-228+	4.E-02	1.E+00
Th-229+	1.E-02	3.E-01
Th-230+	7.E-02	2.E+00
Th-231	1.E+01	3.E+02
Th-234+	2.E+00	5.E+01
Pa-230+	1.E-01	3.E+00
Pa-231+	6.E-02	2.E+00
Pa-233	4.E-01	1.E+01
U-230+	4.E-02	1.E+00
U-232+	6.E-02	2.E+00
U-233	7.E-02	2.E+00
U-234+	1.E-01	3.E+00
U-235+	8.E-05	2.E-03
U-236	2.E-01	5.E+00
U Enriched 10-20%	8.E+04	2.E+06
U Enriched >20 %	8.E+05	2.E+07
Np-235	1.E+02	3.E+03
Np-236b+	7.E-03	2.E-01
Np-236a	8.E-01	2.E+01
Np-237+	7.E-02	2.E+00
Np-239	5.E-01	1.E+01
Pu-236	1.E-01	3.E+00
Pu-237	2.E+00	5.E+01
Pu-238	6.E-02	2.E+00
Pu-239	6.E-02	2.E+00
Pu-240	6.E-02	2.E+00
Pu-241+	3.E+00	8.E+01
Pu-242	7.E-02	2.E+00
Pu-244+	3.E-04	8.E-03
Am-241	6.E-02	2.E+00
Am-243+	2.E-01	5.E+00
Am-244	9.E-02	2.E+00
Cm-240	3.E-01	8.E+00
Cm-241+	1.E-01	3.E+00
Cm-242	4.E-02	1.E+00
Cm-243	2.E-01	5.E+00
Cm-244	5.E-02	1.E+00
Cm-245	9.E-02	2.E+00
Cm-246	2.E-01	5.E+00
Cm-247	1.E-03	3.E-02
Cm-248	5.E-03	1.E-01
Bk-247	8.E-02	2.E+00
Bk-249	1.E+01	3.E+02
Cf-248+	1.E-01	3.E+00
Cf-249	1.E-01	3.E+00
Cf-250	1.E-01	3.E+00
Cf-251	1.E-01	3.E+00
Cf-252	2.E-02	5.E-01
Cf-253	4.E-01	1.E+01
Cf-254	3.E-04	8.E-03
239Pu/9Be	6.E-02	2.E+00
241Am/9Be	6.E-02	2.E+00

Sealed source registration form

S-

Region ______________ □ასტოცი____________ City ______________

1. Registration data: “..” 20__

2. □აცილეს name (Juridical and actual adress, phone, e_mail), □ეპაპარტ ენტ
....
....
....
....

3. □აცილეს legal person ....
....
□ამ ლფ name, Surname, □ასიტონ, □ოონე, e_mail

4. Radiation protection officer
....
□ამ ლფ name, Surname, □ასიტონ, □ოონე, e_mail

5. Sealed source serial □ო □□□□□□□□□□□□□□□□□□□□□..

6. □ცტფრ (□ქ, Ci) □□□□□□□□□□□□□.. □ცტფრ date □□□□□□□□□□□□.

7. □ანფუცტერ(Country) □□□□□□□□□ Source producting data : □□□□□□

8. □ულლფ □□□□□□□□□□□□□ Sealed model □□□□□□□□□□□□□□.

9. Source Status “In use” “not in use”

10. □ყსოცალbarier □□□□□□□□□□□□□□ □სო □-□□□□□□□

11. Source location □□□□□□□□□□□□□□□□□□□..

12. □ლიტონალinformation □□□□□□□□□□□□□□□□□□□.

□ოშშ inspector’s signature:

....

....
□მგალperson signature

signature: ....

□ნსეალდ source registration form

□-

Region ______________ □ისტრიქტ______________ City _______________

1. Registration data: “..” 20__

2. □აცილტ name (Juridical and actual adress, phone, e_mail), □ეაპარტმენტ
....
....
....
....

3. □აცილტ legal person ....
....

□ამილი name, Surname, □ჰონე, □ონე, e_mail

4. Radiation protection officer
....

□ამილი name, Surname, □ჰონე, □ონე, e_mail

5. □ნსealed source serial □ო □□□□□□□□□□□□□□□□□□□□..

6. □ანოთ ალ□ცტივიტ (□ქ, Ci) □□□□□□□□□□.. □ცტივიტ date □□□□□□□□□□□□.

7. □ანუფაცტურერ(Country) □□□□..□□□□□ Source producting data: □□□□□□.

8. □უცლიდე: □□□□□□□□□□□□□□□□□□□□..

9. Chemical form □□□□□□□□□□ □ჰყსიცალform □□□□□□□□□□□□□□.

10. Source Status “In use” “not in use”

11. □ჰყსიცალbarier □□□□□□□□□□□□□□ □ისო □- □□□□□□□

12. Source location □□□□□□□□□□□□□□□□□□..

13. □დდიტიონალinformation □□□□□□□□□□□□□□□□□□.

□ოშშ inspector’s signature:

....

....

□ეგალperson signature

signature: ....

Radiation generating source registration form

□–

Region _____ □ს_____ City _____

1. Registration data : “.....” 20__

2. □კ name (Juridical and physical adress, phone, fax, e_mail)
.....
.....
.....
.....
.....
.....

3. □კ legal person .....

4. Radiation protection officer
.....
□მ name, Surname, □ს, □ნ, e_mail

5. X-ray generator model name
.....

Type, □ტ.....

6. X-ray □ენერატორtype (□მკ) .....

7. Serial □ .....

8. □ან წკარო(Country, date of producting) / supplier .....

.....

9. X-ray tube type, model.....

10. X-ray tube serial □.....

11. X-ray tube manufacturer, date of producting .....

12. X-ray tube technical parameters: .....

13. X-ray device location .....

14. X-ray device : ”In use” “□in use”

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
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□ლლოტრნალinformation

□ლშშ inspector’s signature:

....

....

□მგალperson signature

signature: ....

Source □ᲨᲨ□ცაᲩდ device registration form

□-

Region ______________ □სჩოცტ_____________ City _______________

1. Registration data: “..” 20__

2. □აცლუ name (Juridical and actual adress, phone, e_mail), □ეააპარტ ენტ
....
....
....
....

3. □აცლუ legal person ....
....
□ამ ლუ name, Surname, □ძსოტრნ, □პონე, e_mail

4. Radiation protection officer
....
□ამ ლუ name, Surname, □ძსოტრნ, □პონე, e_mail

5. □სსო serial □ო □□□□□□□□□□□□□□□□□□□□□□□□□.
6. □ანუფცტურრ(Country) □□□□□□□□ □სსო producting data : □□□□□□□□□□
7. □სსო type : □□□□□□□□□□□□□□□□□□□□□□□□□□□□..
8. □სსო model: □□□□□□□□□□□□□□□□□□□□□□□□□□..
9. □უცლდე and its activity □□□□□□□□□□□□□□□□□
10. □უclide registration number : S /□___________
11. □სსო status “in use” “not in use”
12. □სსო status date: □□□□□□□□□□□□
13. □დდოტონალinformation □□□□□□□□□□□□□□□□□□□□□□.

□ოᲨᲨ inspector’s signature:

....

....
□ეგალperson signature

signature