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REGULATION ON THE CONTROL OF HIGH ACTIVITY SEALED RADIOACTIVE SOURCES AND ORPHAN SOURCES

(Unofficial Translation)

SECTION ONE
Purpose, Scope, Legal Basis and Definitions

Purpose

Article 1 – (1) The purpose of this regulation is to provide administrational and technical provisions to be done in order prevent workers, public and environment from harmful effects of ionizing radiation that might arise from registered sealed radioactive sources with high activity and from the orphan sources.

Scope

Article 2 – (1) This regulation includes the sealed sources with activities equal to or higher than the values given in Annex 1 and those determined activities are over the exemption levels determined in Radiation Safety Regulation which is issued in Official Gazette dd. 24/03/2000 and no 23999.

Legal Basis

Article 3 – (1) This Regulation

(a) is prepared depending on the Law on Turkish Atomic Energy Authority with no. 2690 which is issued in Official Gazette dd. 13/07/1982 and no 1773 and the provisions of Radiation Safety Statute issued in Official Gazette dd. 07/09/1985 and no. 18861.

(b) is prepared in parallel with European Union Council Directive 2003/122/EURATOM of 22/12/2003 on the control of high-activity sealed radioactive sources and orphan sources

Definitions

Article 4 – (1) In this Regulation**:**

a) Holder: natural or legal person who are manufacturers, suppliers or users of sources

b) Sealed Radioactive Source: is a radioactive material that is sealed in a capsule in order to prevent leakage under normal usage and possible accidental conditions

c) Source: Sealed radioactive sources with high activities including the values over the manufactured activity, if this is not known over the activity limits indicated in Annex 1 at the time it started to use.

ç) Source transfer: Transfer of the source from a user to another user.

d) Source security: Any measures taken to prevent unauthorized access to sources, damage of sources, loss and theft of the source and use of the source without of authorization

e) Source safety: Any measures to be taken that aims to minimize the occurrence of accidents including sources and measures to be taken to minimize the effects in case of occurrence of accident

f) Source manufacturer: Real or judicial person manufacturing the source

g) Disused Source: Source that would not be used or not foreseen to be used

ğ) Authority: Turkish Atomic Energy Authority (TAEA).

h) License holder: Official or private institution, organization or persons defined in Radiation Safety Statute.

ı) Radiation exposed workers: persons, either self-employed or working for an employer, subject to an exposure incurred at work from practices and liable to result in doses exceeding one or other of the dose levels equal to the dose limits for members of the public.

i) Radioactive waste management facility: Specially designed facility that is used for the treatment and temporary storage or final disposal of radioactive waste

j) Orphan source: Sealed radioactive sources those got out of control of Turkish Atomic Energy Authority with reasons such as leaving, stealing, loss or transfer without complying with notification obligation or those ever registered in records of Turkish Atomic Energy Authority.

k) Transport Container: Container that sealed source put in with transfer or storing purposes

l) Supplier: Real or judicial person supplying the source

m) Applications: manufacturing, mantling, dismantling, repair, import, export, transport, sale, storage, use handling, transfer, dispose of radiation sources that exceeds exemption levels

n) Authorization: Process applied after determination by the TAEA that persons and application conditions are adequate from the point of radiation safety and safety sources for execution of activities relevant with the sources.

SECTION TWO
Obligation, Source Management, Record Keeping, Numbering

Obligation

Article 5 – (1) Official and private institutions, organizations and persons who keep, use, import and export, transfer, and trade sources are obliged to acquire license from the TAEA

and comply with the provisions of this Regulation when they are performing their activities according to provisions or Radiation Safety Statute and Radiation Safety Regulation. In case the application within the scope of this legislation requires consent, permission from the other institutions, authorization from the TAEA prerequisite would be required.

Management of source

Article 6 – (1) Sources are managed under responsibility of license holder as follows:

a) Arrangements are made in order to provide radiation protection criterion determined by the TAEA to protect workers, public and environment from radiation.

b) Necessary measures are taken relating to safety and security of the source.

c) Transfer of the sources is implemented if the transferred organization is licensed or license application is approved by the Authority.

ç) Leakage tests are applied to the sources every year.

d) Written procedures are prepared including measures against risks such as access to sources without permission, stealing, loss and fire risk and performance of these measures is provided.

e) Situations such as access without permission, stealing, loss and incorrect use are notified to the Authority. Source integrity is controlled for every situation that has possibility to damage sources.

f) Source and the related hardware is controlled for whether they are at their place and servicing

g) Processes relevant with the sending the sources out of use urgently to manufacturer or supplier or authorized waste processing or storing facilities are completed and the Authority is informed. Termination or bankruptcy of the license holder does not change this obligation.

ğ) Confirmation about the source receiver have necessary authorization before the start of transport is required.

h) Emergency plans prepared for accident is put into application, information on accident and measures taken are reported to the Authority immediately.

Keeping the records

Article 7 – (1) License holder is obliged to keep the records on sources and source movement by taking the information in Annex 2 into consideration and send the records to the TAEA at the end of each year.

(2) License holder should also send the related records to the TAEA;

a) when the source is obtained

b) when the source transferred or sent to the waste disposal facility,

c) when the license terms are stopped

d) when the records are requested by the TAEA.

Numbering
Article 8 – (1) The manufacturer shall identify each source is identified by a unique number. This number and radiation warning sign shall be engraved or stamped on the source and transport container and provide catalogue. In the case of reusable transport containers, the source container shall at least have information on the nature of the source and maximum activity.
(2) The suppliers shall ensure that the supplied sources are complying with the requirement given in the item (1) of this article.

(3) The license holder shall ensure that the source is identified and marked and that the markings and labels remain legible.

(4) The license holder should keep the necessary documents and information stated in the item (1) of this article including photographs of the source, source container, transport packaging, device and equipment if appropriate.

SECTION THREE
Training and Acquaintance

Training and Acquaintance
Article 9 – (1) License holder provide training of working personnel according to radiation protection programs. Trainings should:

a) include information on safe management of radioactive sources
b) emphase on safety and security requirements and possible consequences of the loss of radioactive sources are given
c) periodically repeated and documented.

(2) Workers and managers in the places, where orphan sources might be found such as airport, customs, ports, metro, train stations, junkyards, are acquainted on the following subjects by their organizations.

a) Possibility that they may be confronted with a source;

b) Visual detection of sources and of their containers;

c) Ionizing radiation and its effects and radiation protection;

ç) Actions to be taken on site in the event of the detection or suspected detection of a source.

SECTION FOUR
Orphan Sources

Recovery of orphan sources
Article 10 – (1) The TAEA would make advice available to the persons who suspect the presence of an orphan source and the actions on detection of the source is started.

(2) TAEA determines necessary measures on detection of orphan sources, to take under control, in cases the TAEA may cooperate with the other institutions to take the necessary measures.

Acquiring the radiation detection system
Article 11 – Customs, junkyards, solid waste management facilities should have radiation detection devices and these devices should be calibrated and serviceable.

Procedures relevant with orphan sources
Article 12 – TAEA makes researches about the history of orphan sources those taken under control. If real or judicial person, who had the source in his inventory recently, is determined at the end of the research, procedures are followed according to relevant articles of Radiation Safety Regulation and other relevant legislation according to the detailed information obtained on the said situation. Those sources are sent to manufacturer or the supplier if lifetime is ended. Orphan sources those manufacturer or supplier couldn't be reached in any reasons are sent or waste processing or storing facilities those authorized by the TAEA. The financial burden due to any should be supplied by the last owner of the source.

(2) Orphan source is sent to the authorized waste management facility by the TAEA in cases that there is no information on the history of the source or real or judicial person, who owned the source recently, couldn't be reached even being determined.

International cooperation and information exchange
Article 13 – TAEA could make exchange information and cooperate with international organisations as regards loss, removal, theft or discovery of sources and as regards related follow-up or investigations.

SECTION FIVE
Provisional and Final Provisions

Inspections
Article 14- (1) TAEA has the competence to inspect and request the relevant documents from the places or facilities with in the scope of this legislation, if the inspection deemed necessary by the TAEA.

Provisional Article 1 – Organizations are obliged to perform necessary arrangements in compliance with this Regulation in one year time following the enforcement date.
Enforcement
Article 15 - This Regulation shall be enforced as of issue date.

Execution
Article 16 - The provisions of this Regulation shall be executed by the President of Turkish Atomic Energy Authority.

Annex -1 Activity Levels
Activity limits for the radionuclide not placed in the following list are equal to 1/100 value of the A1 values given in transfer regulations.

Element (Atomic number)	**Radionuclide**	**Activity(Bq)**
Iron (26)	Fe-55	4×10^{11}
Cobalt(27)	Co-60	4×10^{9}
Selenium(34)	Se-75	3×10^{10}
Krypton(36)	Kr-85	1×10^{11}
Strontium(38)	Sr-90(a)	3×10^{9}
Palladium(46)	Pd-103(a)	4×10^{11}
Iodine(53)	I-125	2×10^{11}
Cesium (55)	Cs-137(a)	2×10^{10}
Promethium(61)	Pm-147	4×10^{11}
Gadolinium(64)	Gd-153	1×10^{11}
Thulium(69)	Tm-170	3×10^{10}
Iridium(77)	Ir-192	1×10^{10}
Thallium(81)	Tl-204	1×10^{11}
Radium(88)	Ra-226(b)	2×10^{9}
Plutonium(94)	Pu-238(a)	1×10^{11}
Americium(95)	Am-241(b)	1×10^{11}
Californium(98)	Cf-252	5×10^{8}

a) Includes the effects of the radionuclide with activity levels less then 10 days half life.
b) Includes the neutron sources with beryllium.

REGISTRATION FORM FOR SOURCES WITH HIGH ACTIVITY

1. High activity source no:	**2. License Holder** Name: Address: Country: Manufacturer □ Supplier □ User □	**3. Place of source** (In use In Storage) (If other than the address in section 2) Name: Address: Fixed □ In storage (mobile) □
4. Registration Registration day: Transfer date of registration:	**5. License** License No: License Date: License End Date:	**6. Control date of the source** Date: Controlled by: Signature:
7. Features of the source	**8. Receiving the source**	
Radionuclide:		
Manufacture or first use activity:	Receiving date:	
Production date:	Received by:	
Manufacturer / Supplier:	Name:	
Name:	Address:	
Address:	Country:	
Country:	Manufacturer □ Supplier □ Other User □	
Physical and Chemical Features:		
	9. Transfer of the source	**10. Other Information:**
	Date:	
	Received by:	
	Name:	
	Address:	
	country:	
	Manufacturer □ Supplier □ Other User □ Waste Facility □	