

RULEBOOK

ON RADIOACTIVITY CONTROL OF GOODS DURING THE IMPORT, EXPORT AND TRANSIT

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SUBJECT OF REGULATION

Article 1

This Rulebook regulates:

1. methods and procedure of radioactivity control during import, export and transit of foodstuffs, drinking water, feeding stuffs, artificial fertilizers, medicines, general use products, construction materials, ores, metal products of primary form, mineral raw materials, secondary raw materials and other goods;
2. procedure of using monitor and intervention procedure in the case of illicit trafficking of radioactive and nuclear materials across the border of the Republic of Serbia.

Article 2

For the purposes of this Rulebook, the following terms have the following meanings:

1. *foodstuff* is any substance or product, whether processed, partially processed or unprocessed and intended for human consumption, or can reasonably be expected to be used for human consumption, except food for animals which is not used for food production, live animals, if they are not prepared to be placed on the market for human consumption, plants before harvesting, picking or fruits harvesting, medical products, cosmetics, tobacco and tobacco products, narcotic or psychotropic substances, remains (residues) and contaminants. The foodstuff is also a drink, chewing gum as well as any substance intentionally added to food during preparation, processing or production;
2. *feeding stuff* is any substance or product, processed, partially processed or unprocessed, and intended for feeding animals used in food production;
3. *identification of radionuclides* is qualitatively and quantitatively determination of radionuclides content in the examined sample.

CONTROL OF ILLICIT AND ILLEGAL TRADE AT BORDER CROSSINGS

Article 3

Control of illicit and illegal trade of radioactive and nuclear materials across the border of the Republic of Serbia is performed out at border crossings.

Direct control of illicit and illegal trade of radioactive and nuclear materials is performed by members of the Customs Directorate (hereinafter referred to as: the customs officers) using portable radiation indicators and stationary radiation monitors. Customs officers are tasked to detect any exceeding of dose above the background level of radiation in a given location during control of goods and passengers.

Article 4

If the custom officer detects exceeding of dose that is 20% above the background level of radiation for a given location, he shall immediately inform inspection responsible for ionizing radiation protection and Serbian Radiation Protection and Nuclear Safety Agency (hereinafter referred to as: the Agency) which decides on further procedure.

Vehicle in which the exceeding of dose above the background level of radiation for a given location was detected should be stored in a safe place from which it will not compromise the border crossing and human health.

Article 5

The Agency provides expert assistance to customs officers for radioactivity control at the border crossings.

By order of the Agency, legal persons authorized to perform determination of radionuclides content in goods during the import, export and transit (hereinafter referred to as: authorized legal persons) are providing expert and technical support at the border crossings.

METHODS AND PROCEDURE OF CONTROLLING GOODS DURING EXPORT, IMPORT AND TRANSIT

Article 6

Radioactivity control during import is required for foodstuffs, drinking water, feeding stuffs, artificial fertilizers, medicines (except radiopharmaceuticals), general use products, construction materials, ores, metal products of primary form, mineral raw materials, secondary raw materials.

Radioactivity control is based on measurements performed by authorized legal persons and involves measurements of dose rate of ionizing radiation from the goods and examination of samples by gamma spectrometric method.

Radioactivity control of goods during import, export and transit can also be performed on the basis of certificate on radioactivity accompanying the goods (hereinafter referred to as: the Certificate), which was issued by an accredited laboratory for radioactivity examination.

The certificate is original and is issued in language of country of origin as well in Serbian in the case of import.

The certificate contains: name and full address of the exporter, the country of origin, country of importation, transportation mean and identification of the vehicle, name and description of goods, quantity of goods, date, place, seal and signature of the exporter, name and full address of the laboratory which conducted examination, name of the accreditation body which accredited laboratory, number of samples tested, the radionuclide content of each sample tested (for goods that have obligatory gamma spectrometric measurements), highest value of dose rate measured on the surface of the consignment (for goods that have obligatory measurements of dose rate), date of examination, place, seal and signature of laboratory that conducted the examination.

Exceptionally, according to a special order of inspection authorities the net beta and net alpha emitter's presence is examined.

Article 7

Dose rate measurements are required for construction materials, metal products of primary form, mineral raw materials and secondary raw materials listed in Appendix 1 of this Rulebook.

Identification of radionuclide by gamma spectrometric method is performed on goods for which more than twice of the value of the background level of radiation for given location is determined by dose rate measurement.

Article 8

Identification of the radionuclide by gamma spectrometry is required for foodstuffs, feeding stuffs, artificial fertilizers, construction materials, metal products of primary form, mineral raw materials and secondary raw materials, listed in Appendix 2 of this Rulebook.

Article 9

In the case of transit of goods, only control by portable radiation indicators and stationary radiation monitors is performed which is done by customs officers.

If the custom officer detects exceeding of dose that is 20% above the background level of radiation for a given location, the procedure from Article 4 of this Rulebook will be followed.

Article 10

Sampling the goods for which gamma spectrometric examination is required is performed by an authorized legal person by order of veterinary, phytosanitary, sanitary inspection service or phytosanitary inspection for food safety, in accordance with their responsibilities.

Sampling of goods is performed at the border crossing or in the place where custom is located.

Sampling the goods for which gamma spectrometric examination is required, and that is not in responsibility of the veterinary, phytosanitary, sanitary inspection service or phytosanitary inspection for food safety, is performed at the border crossing by an authorized legal person by order of inspection authorized for radiation protection or inspection authorized for nuclear safety and radioactive waste management.

Article 11

Costs of measurement performed by authorized legal persons are borne by importer that is owner of the goods in case of transit.

Article 12

While issuing report on measurements performed by an authorized legal person, import and custom clearance of goods is prohibited, but a temporary decision on transport to the designated custom office for temporary storage may be granted.

After measurements performed, authorized legal person shall deliver a report to the inspection authority that makes a decision based on the report.

Article 13

Radioactivity control of exported goods is performed by authorized legal persons.

Radioactivity control of exported secondary raw materials is mandatory.

Control of the exported goods is performed at place of loading. After performing radioactivity control of secondary raw materials, authorized legal person shall submit a report on the measurements to the exporter.

Report on the radioactivity measurements of secondary raw materials contains at least the following:

1. place and date of measurement;
2. authorized legal person who performed the radioactivity measurement;
3. type of the secondary raw materials;
4. quantity of the secondary raw materials;
5. exporter of the secondary raw materials;
6. carrier of consignment of the secondary raw materials;
7. transport organiser of consignment of waste materials;
8. recipient of consignment of the secondary raw materials ;
9. registration number of the motor vehicle or trailer, if transport is done by road traffic or waybill number of wagon, if the transport is done by railway traffic;
10. background dose rate at the measuring site;
11. description, how are possibly measured increased levels of dose rates are distributed over the surface of consignment of secondary raw materials (homogeniously, increased dose rate measured at only one spot, etc.)
12. the highest level of dose rate measured on the surface of consignment of secondary raw materials ;
13. dose rate value measured at the driver's seat or in a place where persons accompanying the consignment are;
14. device used for radioactivity measurements of the consignment;
15. measures proposed for radiation protection.

Costs of control for exported goods are borne by exporter.

PROCEDURE IN CASE OF ENHANCED RADIOACTIVITY DETERMINED

Article 14

If the authorized legal person determines that imported goods contain radionuclide above the prescribed limits or contain radioactive sources, it will within 24 hours inform inspection responsible for the control of goods, for which higher radioactivity is determined. The responsible inspection will order return of the consignment to the sender, and make a decision on banned import.

The authorized legal person shall notify to the Agency any determined increase of radionuclides content above the prescribed level.

If the authorized legal person determines that goods in transit through the Republic of Serbia contain radionuclide above the prescribed limits or contains radioactive sources, it will within 24 hours inform inspection responsible for the control of goods, for which non-compliance with the limits of the radionuclide content is determined. The responsible inspection will make a decision on banned transit.

The decision on banned import or banned transit and written evidence that the goods have left the territory of the Republic of Serbia, is submitted to Customs, inspection responsible for ionizing radiation protection and to the Agency.

Article 15

If the authorized legal person determines that exported secondary raw materials contain radionuclides above the prescribed limits or contains radioactive sources, it will within 24 hours inform inspection responsible for ionizing radiation protection, which will order the restore of consignment to the place of loading and care.

Report on undertaken measures and procedures inspection responsible for ionizing radiation protection shall submit to the Agency.

Costs of disposal of secondary raw materials which contains radionuclide above the prescribed limits or radioactive sources are borne by owner.

Article 16

In the case of returning of goods to the Republic of Serbia, which contain radionuclide above prescribed limits or contain radioactive sources, and that was previously exported from the Republic of Serbia, custom officer shall inform the Agency on that case.

The Agency will assess whether it is necessary to implement additional radiation protection measures and decide on further actions.

PROCEDURE OF MONITOR USE AND PROCEDURE FOR INTERVENTION IN CASE OF ILLICIT TRAFICKING OF RADIOACTIVE AND NUCLEAR MATERIALS

Article 17

Customs officers are performing direct control of illicit and illegal trade of radioactive and nuclear materials using portable radiation indicators and stationary radiation monitors.

Stationary radiation monitors at border crossings are set to allow control of the radiation of every vehicle and passenger crossing the border. During radioactivity control with stationary radiation monitors, speed of passing by the monitors should not exceed the speed of passing listed in specification of stationary monitors. If the stationary monitor detects dose exceeding above the background level of radiation for given location, light or sound alarm of the device will be activated.

At border crossings where stationary radiation monitors are not placed, customs officers using portable radiation indicators perform direct control of illegal and illicit trade of radioactive and nuclear materials. During the regular customs control, customs officers are carrying portable radiation indicators which are on at all time during the customs control.

If the portable radiation indicator alarms when customs officer is approaching the vehicle, the signal needs to be verified. Verification involves distancing and reapproaching the vehicle in order to confirm the presence of ionizing radiation field.

The vehicle in which exceeding of the dose was detected above the background level of radiation for a given location is stored in a safe location from which will not threaten the border crossing and human health.

EQUIPMENT AND INSTRUMENTS FOR DIRECT CONTROL OF RADIOACTIVITY OF GOODS AND RADIOACTIVE CONTAMINATION OF PASSENGERS

For radioactivity control customs officers use portable radiation indicators and stationary radiation monitors.

Pocket (portable) radiation indicators should:

1. be lightweight;
2. have sound and light alarm;
3. detect increase of the ambient gamma dose rate of $0,2 \mu\text{Sv/h}$ for the duration of the 1s for energies of ^{241}Am , ^{137}Cs and ^{60}Co ;
4. operating in the range of 100 nSv/h to 0.1 Sv/h with measurement uncertainty less than $\pm 20\%$;

5. have operating autonomy for more than 500 hours.

Stationary monitors placed at the border crossings should have following characteristics:

1. detection threshold is such that registers any increase of dose rates for more than 20% of the background radiation level;
2. is able to detect increase of radiation on a moving vehicle.

ENTERING INTO FORCE

Article 19

This Rulebook shall enter into force on the eighth day after the day of its publication in the "Official Gazette of the Republic of Serbia".

Appendix 1

List of goods that require dosimetric examination:

1. kaolin and other kaolin clays, whether or not calcinated;
2. marble, travertine, ecosine and other calcareous monumental or construction stone of an aparent relative density 2.5 or higher;
3. aluminum ores and concentrates;
4. niobium, tantalum, vanadium, zirconium ores and concentrates;
5. granulated slag (sand) in the manufacture of iron or steel;
6. slag (other than granulated slag) of scaling and other waste from the manufacture of iron or steel;
7. scrap waste with following index numbers 19 12 02 and 19 10 03 in Catalog of waste:
 - 1) waste and scrap of copper;
 - 2) waste and scrap of iron or steel: waste ingots, slabs, etc. of iron or steel for melting;
 - 3) waste and scrap of nickel;
 - 4) waste and scrap of aluminum;
 - 5) waste and scrap of lead;
 - 6) waste and scrap of zinc;
 - 7) waste and scrap of tin;
 - 8) waste and scrap of tungsten;
 - 9) waste and scrap of molybdenum;
 - 10) waste and scrap of tantalum;
 - 11) waste and scrap of magnesium;
 - 12) waste and scrap of cobalt;
 - 13) waste and scrap of bismuth;
 - 14) waste and scrap of cadmium;
 - 15) waste and scrap of titanium;
 - 16) waste and scrap of zirconium;
 - 17) waste and scrap of antimony;
 - 18) waste and scrap of manganese;
 - 19) waste and scrap of beryllium, chromium, germanium, vanadium, gallium, hafnium (celtium), indium, niobium (columbium), rhenium and thallium;
 - 20) waste and scrap of cermets.

Appendix 2

List of goods that require gamma spectrometric examination of radionuclides content:

1. tea;
2. blueberries (in any forms);
3. cranberries (in any forms);
4. forest berries (in any forms);
5. mushrooms, apart grown (in any forms);
6. grains (except seed goods);
7. meat and other edible offal;
8. milk and dairy products;
9. poultry and bird eggs;
10. natural honey;
11. edible products of animal origin;
12. extracts and juices of meat, fish or crustaceans, mollusks or other aquatic invertebrates;
13. calcium hydrogen phosphate (di-calcium phosphate) and calcium di-hydrogen phosphate (mono-calcium phosphate) intended for the production of animal feed;
14. mineral phosphate fertilizers and raw materials for their production;
15. natural calcium phosphates, natural aluminum calcium phosphates and phosphate chalk;
16. silicate fossil meals (for example: kieselguhr, tripolite and diatomite) and similar silicate soils, whether or not calcinated, of an aparent relative weight not more then 1;
17. granite, porphyry, basalt, sandstone and other stone for constructing, including roughly trimmed or cut by sawing or otherwise, into blocks or slabs of square or rectangular shape;
18. gypsum, gypsum anhydrite; plasters (consisted of calcinated gypsum or calcium sulphate) whether or not colored, with or without small quantities of bonding accelerators or retarders.