



SKG-03

RADIOACTIVE WASTE INVENTORY SYSTEMS

INTENDED USE

SKG-03 Radioactive Waste Inventory Systems are designed to inspect radioactive waste in packages of arbitrary geometries in order to classify them and determine the specific activity of radionuclides in them, as well as to measure gamma dose rate emitted by inspected radioactive waste.

The systems also make it possible to determine the radionuclide composition and measure the specific activity of radionuclides in solid industrial waste at nuclear power plants that is contaminated or contains man-made radionuclides yet not considered as radioactive waste.

FEATURES

- A thoughtful choice of architecture for a family of radioactive waste inventory systems, allowing you to select equipment to meet your tasks: measuring any types of radioactive waste packages and any categories of waste
- Determination of the composition of gamma emitting radionuclides and their specific activity
- Spatial averaging of measurement results thanks to automatic rotation of radioactive waste packages and simultaneous measurement of gamma spectra
- Application of attenuation filters when measuring high-level waste
- Possibility of automatic measurement of the mass of inspected radioactive waste
- Measurement of the gamma dose rate of inspected radioactive waste at specified distances (0.1 m, 1 m) from the surface of the radioactive waste package
- Categorization of inspected barrels with radioactive waste basing on the results of specific activity calculation
- Generating a report with measurement results and outputting a report to a printer at the operator's request
- Saving measurement results in the form of spectra and calculated activity values in the database linked to the identification number of the barrel with radioactive waste





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APPLICATION

- Certification of radioactive waste at the places of their generation and processing
- Inspection of radioactive waste in storage areas
- Quality control and inventory monitoring of products of nuclear facilities



CERTIFICATION

- Registered in the State Register of Measuring Instruments under No. 85112-22
- Meet the requirements for products of safety class 4N according to NP-001-15, NP-016-05, NP-033-11
- Comply with the requirements of the Technical Regulations of the Customs Union on safety of low voltage equipment (TR CU 004/2011), Technical Regulations of the Customs Union on electromagnetic compatibility of technical means (TR CU 020/2011)

DESIGN

The SKG-03 systems include spectrometric and dosimetric (optional) measuring channels, as well as an operator's workstation with installed specialized software and a set of constituent parts.

A spectrometric channel is one or several spectrometric paths based on detecting devices of the same type or a combination of detecting devices of different types.

To construct spectrometric paths in the systems, gamma radiation detecting devices are used, based on various types of detectors: scintillation detectors based on NaI and LaBr₃ crystals, semiconductor CZT (cadmium-zinc-tellurium) and HPGe (high purity germanium) detectors.

The specific design of an SKG-03 system is determined by the type and number of spectrometric paths.

The dosimetric measuring channel of the system is used to measure the ADER, and its configuration is determined by the requirements for the ADER measurement range.

The set of constituent parts ensures structural compatibility with external design solutions for radioactive waste storage and certification sites and various types of radioactive waste packaging. This set may, among other things, include weighing equipment, systems for automated or manual movement of detectors, rotating devices for radioactive waste packages, systems for reading and applying barcodes, distance meters, alarm and video surveillance systems, etc. The set does not affect the main metrological characteristics of the system measuring channels, and its composition depends on the customer's technical requirements.

