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CERTIFICATE-PERMISSION
for design and transportation of radiation head of gamma-defectoscope RID-Se4WM P (Exertus Light W)

RUS/991A(Rev.2)

Joint Stock Company “Energomontage International”, acting as a competent entity of Russian Federation on nuclear and radiation safety during transportation of nuclear materials, radioactive chemicals and devices, basing on expert report No. 29-01/991 states that design and transportation of radiation head of gamma-defectoscope RID-Se4WM P (Exertus Light W) with sealed special form sources of gamma-radiation based on Se-75 acting as a transport package during transportation, corresponds GOST 16327-88 “Transport Packages for Radioactive Materials. Common Technical requirements”, “Sanitary Rules of Safety for Workers and Population During Transportation of Radioactive Materials (Substances)” (SanPiN 2.6.1.1281-03), “Rules of security during transportation of radioactive materials (NP-053-04)” and “Rules of secure transportation of radioactive materials” (IAAE issue 2018, No. SSR-6 (Rev.1)) to type “A” packages.

The present Certificate-permission is issued by to:	JSC “Energomontage International” (Moscow)
Validity of this Certificate-permission:	Up to February 26, 2031

The hallmark given by the competent entity:
RUS/991A(Rev.2)

General Director

I. Zhuravlev
26.02.2026

Basic purpose

The radiation head of gamma-defectoscope RID-Se4WM P (Exertus Light W), technical requirements DVPA23.00.00.000 TU (here and after referred as “radiation head” RG) is designed for radiographic NDT quality control of industrial goods and responsible pipelines both on stage of manufacturing, assembling and usage, as well as for transportation and temporarily storage of sealed source of gamma-radiation Se-75 (SR17 type only).

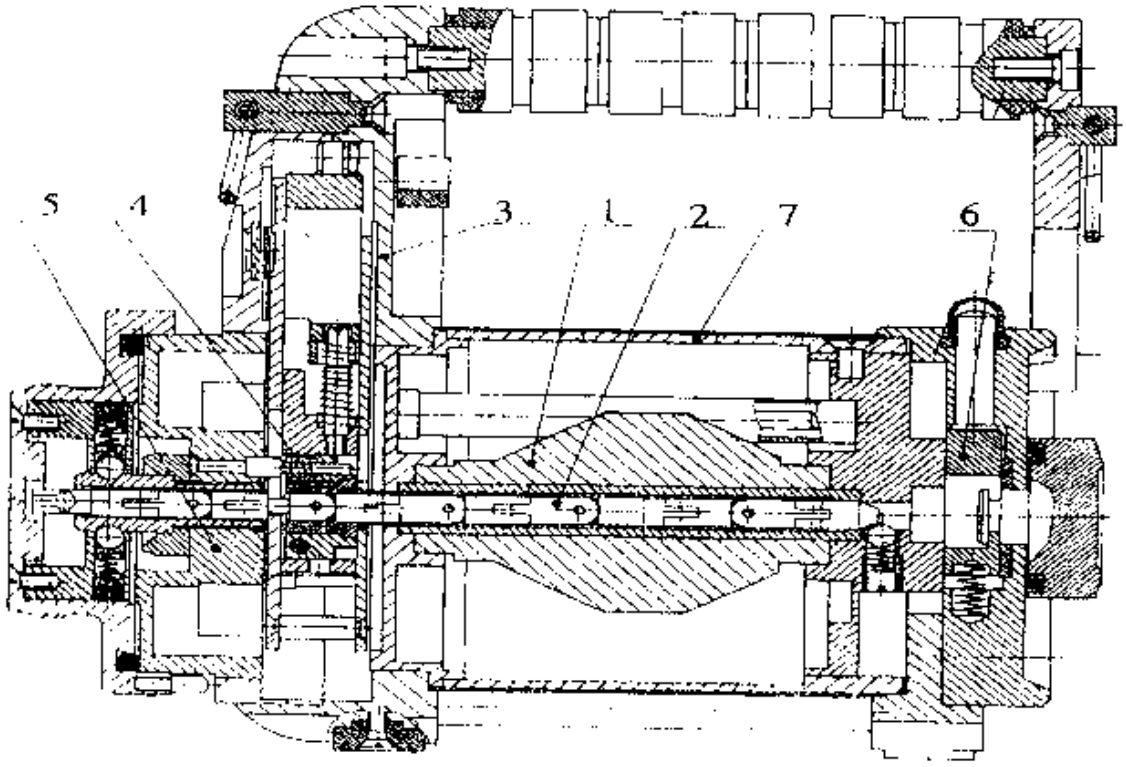
Permitted radioactive contents

The radiation head is allowed for transportation and temporarily storage of certified sealed source of gamma-radiation based on Se-75 of type SR17 under special form S218 RUS/6223/S-96 (Rev.2) on TU 95 2934-2008 with maximum total activity 2,96 TBq (80 Ci). The exposed power ratioo at the distance 1 m from the source shouldn’t exceed $2{,}0 \times 10^{-6}$ A/kg (27,4 R/h).

Description of radiation head

The radiation head (see Picture 1) consists of protection unit (1), source holder (2), support flange (3), fixing unit (4) with gear and color indication, two locking systems (5) and (6) preventing extraction of a source from the storage position until remote control and guide tube are connected.
Protection unit is made of tungsten and fixed inside the body (7) made of stainless steel. Inside the protection unit, there is straight channel for source holder framed with tungsten.
Source holder (2) is designed as a chain made of tungsten and steel parts connected by spring pins. Source of gamma-radiation is fixed in the middle of source holder.
Fixing unit (4) consists of body, spring bracket and gear. It is designed for fixing of source holder in storage position. Fixing unit works automatically, when source holder returns inside protection unit. Fixing unit has lock, which switches on only after correct connection of remote control and guide tube (or terminator) and preventing their disconnection in on-position.
Locking system (5) is designed for connection of remote control and consists of aluminum body, button and connector. The button prevents unlocking of source when remote control is disconnected.
Locking system (6) consists of aluminum body, button and shuttle for fixing of guide tube. Shuttle is connected with lock, which, via gear, prevents unlocking of guide tube when the lock is opened.
Dimensions of radiation head, mm: 216x189x110.

Weight of radiation head, kg (not more) – 8.



Picture 1. Radiation head of gamma-defectoscope RID-Se4WM P (Exertus Light W)

1 – protection unit; 2 – source holder; 3 – support flange; 4 – fixing unit; 5 – locking system; 6 – locking system; 7 – body

Transport sources and terms of transportation

Transportation of radiation head loaded with radionuclide source can be carried out by any source of transportation following the rules of safety for transportation of dangerous goods class 7 GOST 19433-88, on transport category not higher than “I-white», observing norms of safety stated in “Rules of security during transportation of radioactive materials (NP-053-04)”. Transportation of radiation head without source may be provided by any source of transportation.

Transportation of radiation head loaded with radionuclide source it’s recommended to provide in over-pack. Potency of equivalent doze in any point of outside surface of the fully loaded package shouldn’t exceed 2mSv/h (200 mBr/h).

Transportation index (TI) of fully loaded radiation head shouldn’t exceed 10.

Total TI of a number of packages placed in one source of transportation shouldn’t exceed 50.

During transportation provided by civil plain the total TI shouldn't be more 50. During transportation provided by cargo aircraft the total TI shouldn't be more 200.
Level of radiation in any point of external surface of transportation source shouldn't exceed 2mSv/h (200 mBr/h); at 2 m distance – 0,1 mSv/h (10 mBr/h).

Measures of security

Work with radiation head during temporarily storage, loading, unloading and transportation should be held according to: "Norms of radiation safety" (NRB-99/2009), "Basic medical rules of usage of radioactive and ionization sources" (OSPORB-99/2010), "Sanitary Rules of Safety for Workers and Population during Transportation of Radioactive Materials (Substances)" (SanPiN 2.6.1.1281-03), "Rules of security during transportation of radioactive materials (NP-053-04)" and "Rules of secure transportation of radioactive materials" (IAAE issue 2018, No. SSR-6 (Rev.1)) applied for type "A" packages and according to manual.
Transportation of radiation head should be provided by firm, which has license of Federal Service on Ecological, Technological and Atomic Supervision for dealing with radioactive materials during their transportation.
In case of emergency situation occur during transportation of the radiation head, it is necessary immediately to contact with:

- JSC "Energomontage International", +7 (499) 262-14-93, e-mail (only for emergency notification) emi@jscemi.ru,

as well as to follow requirements of div. 7 "Measures During Accidents During Transportation of Radioactive Materials" NP-053-04, div.3 "Investigation and Protocol of Emergency Cases" NP-014-2000, div.6 "Actions During Nuclear Accidents and Elimination of Consequences" SanPiN 2.6.1.1281-03 and emergency card No. 926.

Additional requirements

The present certificate does not liberate the shipper, forwarder and consignee from following rules and requirements in force for safe transportation of radiation head.

All questions connected with this certificate should be decided in the Department of Nuclear and radiation Safety of Joint Stock Company "Energomontage International" (107078, Moscow, Krasnovorotskiy pr. 3, bld. 1, tel.: (499) 262-14-93, (499) 262-12-87).

Only the copies of this certificate-permission sealed by Joint Stock Company “Energomontage International” are valid.

Chief of department of
security and licensing of JSC
EMI
S.A. Morozova
February 4, 2026

1-st Vice General Director
JSC “Energomontage
international”
S.P. Kolotev
February 10, 2026