

**State Corporation of Atomic Energy
“ROSATOM”**

**CERTIFICATE-PERMISSION
for design of rechargeable transport container of gamma-defectoscope
GAMMAMAT-Se 4P (RID-Se4P)**

RUS/5374/B(U)-96 (Rev.1)

State Corporation of Atomic Energy “Rosatom”, 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. 29-01/5373/5374-1 states that design of rechargeable transport container of gamma-defectoscope GAMMAMAT-Se 4P (RID-Se4P) designed for loading/unloading of radiation head with sealed sources of gamma-radiation Se-75, as well as for their storage and transportation corresponds GOST 16327-88 “Transport Packages for Radioactive Materials. Common Technical requirements”, the requirements of “Rules of safety during transportation of radioactive materials (NP-053-04)” and “Rules of secure transportation of radioactive materials” (ST-1, IAEA, Vienna, issue 1996) to B(U) type packages.

The present Certificate-permission is given to JSC “Energomontage International”.

Validity of this Certificate-permission is expired in May 25, 2014.
(Together with special form certificate for the source used).

**The hallmark given by the
competent entity:
RUS/5374/B(U)-96 (Rev.1)**

Deputy General Director

E.V.Evstratov

09.06.2009

Basic purpose of package set

The rechargeable transport container of gamma-defectoscope GAMMAMAT-Se 4P (RID-Se4P) is designed for loading/unloading of radiation head with sealed sources of gamma-radiation Se-75, as well as for their storage and transportation.

Permitted radioactive contents

In the rechargeable transport container of gamma-defectoscope GAMMAMAT-Se 4P (RID-Se4P) it's allowed for storage and transportation of certified sealed sources of gamma-radiation based on Se-75 of SR-type (TR 95 2934-2008) with maximum total activity, 17,76 TBq (480 Ci).

Design of rechargeable transport container

The rechargeable transport container (see Picture) consists of stainless steel cylindrical body (1), on the upper cap (10) of which there is a handle (11) designed for cargo operations. Inside the body there is four-channel radiation protection unit which consists of depleted uranium shield (2) and tungsten insert (3).

On the upper flange (4) there are located: locking system (5), stopper (6) and lock (7). Mobile clamping ring (8) provides possibility to open only one channel at a time among existing four. Inside the channels of protection shield, closed by caps, there are source-holders (12).

During transportation the rechargeable transport container is placed in overpack (metallic cylinder with cap).

Dimensions of the rechargeable transport container:

D = 175 mm;

H = 315 mm;

Weight of container is not more than 25 kg.

Dimensions of overpack:

D = 420 mm;

H = 274 mm;

Weight of container placed in overpack is not more than 50 kg.

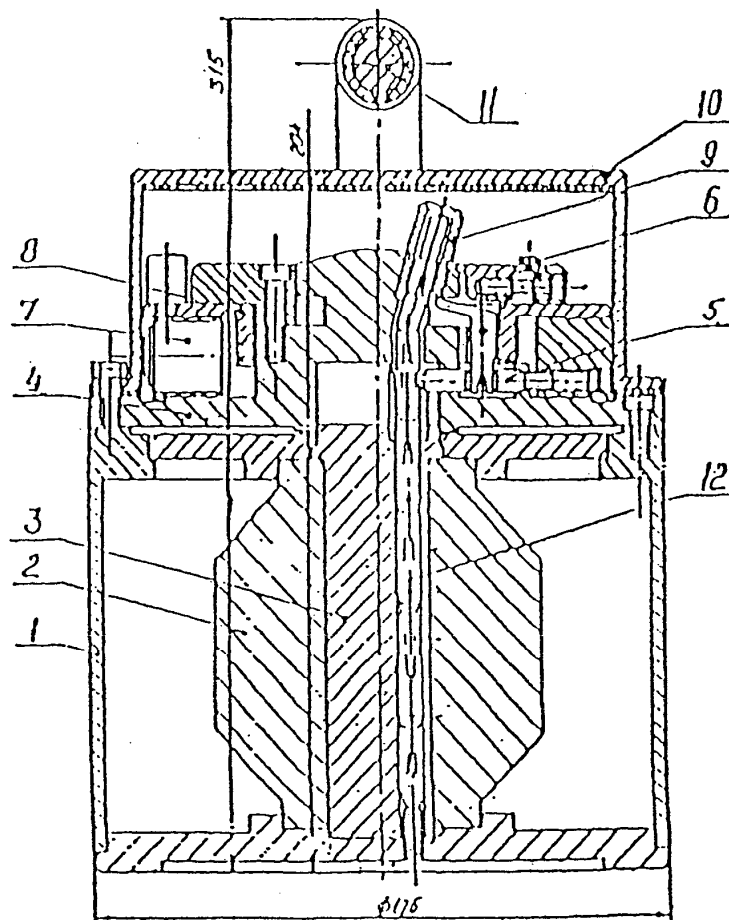
Transport sources and terms of transportation

The transportation of the rechargeable transport container loaded with sources can be carried out by any source of transportation following the rules of safety for transportation of radioactive goods class 7 GOST 19433-88 for each source of transportation, transport category III-yellow in case it's loaded with sources and transport category II-yellow in case it's empty.

Potency of equivalent doze in any point of outside surface of overpack during transportation of the loaded rechargeable transport container shouldn't exceed 2mSv/h (200 mBr/h). Transportation index (TI) 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).

Rechargeable transport container



Picture

1 – body; 2 – DU shield; 3 – tungsten insert; 4 – flange; 5 – locking system; 6 – stopper; 7 – lock; 8 – clamping ring; 9 – cap; 10 – cap; 11 – handle; 12 – source holder

Measures of security

The usage of the rechargeable transport container during storage, loading, unloading and transportation should be held according to: "Norms of radiation safety" (NRB-99), "Basic medical rules of usage of radioactive and ionization sources" (OSPORB-99), "Sanitary Rules of Safety for Workers and Population" (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" (Vienna, ST-1, IAEA, issue 1996).

In case of emergency situation occur during transportation of the rechargeable transport container, it is necessary immediately to contact with:

- dispatcher of Emergency Branch service OAO "Atomspetztrans", round the clock, 8-(499) 949-4481; 8-(499) 763-0477; GSM 8-926-293-0830; 8-926-293-0287
- dispatcher of FGUP "SKZ RosAtom", (495) 933-60-44, (495) 933-60-45; fax (499) 949-24-35;
- dispatcher FGUP ATZ SPb, round the clock, (812) 702-19-00, fax (812) 591-53-33, e-mail (only for emergency notification) emergency@nwatom.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.

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

All questions connected with this certificate should be decided in the Department of Nuclear and radiation Safety of State Corporate of Atomic Energy "Rosatom" (119017, Moscow, Bolshaya Ordynka Str. 24/26, tel.: (499) 949-29-27, (499) 949-48-28) or in OAO "V/O "Izotop" (119435, Moscow, Pogodinskaja str. 22, tel.: (495) 245-0118, fax: (495) 245-2492.

Only the copies of this certificate-permission sealed by Department of nuclear and radiation safety responsible for permissions and licenses of State Corporate of Atomic Energy "Rosatom" or OAO "V/O "ISOTOP" are valid.

Deputy chief of federal
inspection of RF on
ecological, technological and
radiation safety

V.S.Bezzubzev
June 05, 2009

Chief of department of
security and licensing of
SCAE "Rosatom"

A.M.Agapov
May 27, 2009

Chief of OJAT&RAO and
liquidation of dangerous objects
Department of SCAE "Rosatom"

E.G.Kudrjavzev
May 27, 2009

Director
OAO "V/O "Isotop"

B.V.Akakiev
May 26, 2009

Translated by



A.J.Alekseev
June 14, 2009

A handwritten signature in black ink, appearing to be "Alekseev".