



STATE OFFICE FOR NUCLEAR SAFETY

*State Office for Nuclear Safety  
Senovážné nám. 9, 110 00 Prague 1  
Nuclear Safety Section*

In Prague, on 10 October 2013  
Ref. no.: SÚJB/ONRV/21067/2013  
File no.: SÚJB/POD/19221/2013/2  
RAW and Spent Fuel Management Division

## DECISION

The State Office for Nuclear Safety (SONS) as the competent administrative body pursuant to Section 3 (2) (c) of Act no. 18/1997 Sb., On Peaceful Utilisation of Nuclear Energy and Ionising Radiation (the Atomic Act) and on Amendments and Additions to Some Acts, as later amended, has decided as follows in the administrative proceedings initiated pursuant to Section 44 (1) of Act no. 500/2004 Sb., Rules of Administrative Procedure (hereinafter referred-to as "RAP"), on 2 September 2013 on the basis of an application filed by a participant in proceedings as defined in Section 27 (1) (a) RAP – Eckert & Ziegler Cesio s.r.o., Identification Number 45274584, Registration Number 108600 (hereinafter referred-to as "Participant in Proceedings"), of 28 August 2013 under file no. 20/EZC/13 in the matter of repeated issuance of the decision on type approval of a special form radioactive material:

SONS, pursuant to Section 67 (1) RAP and Section 23 (2) of Act no. 18/1997 Sb., as later amended,

### **a p p r o v e s**

Construction type **Am1.N02** special form radioactive material (hereinafter referred-to as "SFRM"), this SFRM, manufactured in conformity with the documentation assessed, being assigned the identification designation

### **CZ/1009/S – 96**

and, for the purposes of international identification, this Am1.N02 SFRM type approval decision being assigned the code designation

### **CZ/1009/S – 96 (Rev. 2).**

The special form radioactive material under the identification designation CZ/1009/S – 96 complies with the requirements of Act no. 18/1997 Sb., as amended, as well as the relevant implementing regulations, the recommendation of the International Atomic Energy Agency (IAEA) titled "Regulations for the Safe Transport of Radioactive Material, 2009 Edition Safety Requirements Series No. TS-R-1," and the requirements of the international transportation regulations that refer to the cited IAEA's rules.

### Description of the Special Form Radioactive Material

Am1.N02 special form radioactive material is a cylinder 10 mm long and the diameter of 7.8 mm. It consists of an outer capsule of stainless-steel closed with a plug of the same material welded on by welding in the protective atmosphere, an inner capsule with a plug, both of stainless steel, too, welded on using the TIG method as well, and a radionuclide emitter inside the inner capsule. A distance piece fixes the inner capsule so that the radionuclide emitter is in close contact with the outlet hole of the outer capsule, 0.2 mm thick.

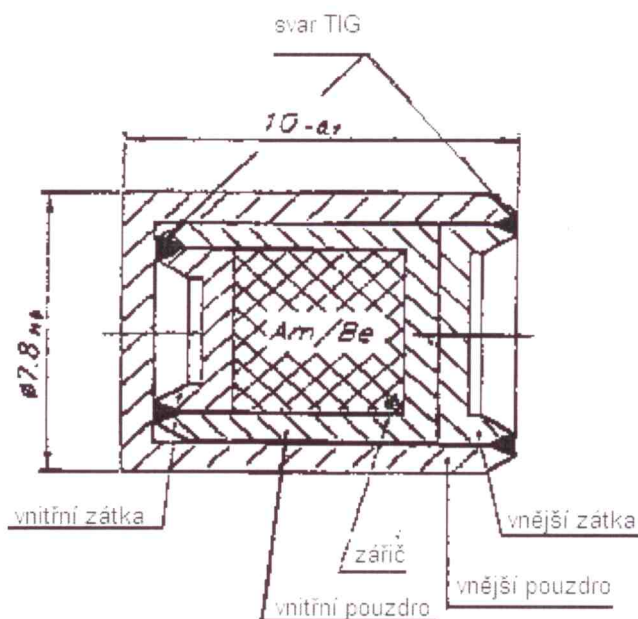
Eckert & Ziegler Cesio s. r. o., Radiová 1, 102 27 Prague 10, is the manufacturer of this SFRM.

### Parameters of the Special Form Radioactive Material (SFRM)

SFRM	Outer diameter [mm]	Height [mm]	Thickness of the hole [mm]	Maximum activity [GBq]	ISO Classification
Am1.N02	7.8	10	0.2	7.4	C 66545

### Picture of the Special Form Radioactive Material

The picture of the Am1.N02 SFRM corresponds to the technical drawing “Am – Be NEUTRON SOURCE Am1.N02, 1. 207.02.02 – 00:00 (4), BEBIG Isotopentechnik und Umweltdiagnostik GmbH, of 2 May/28 July 1995”.



svar TIG = TIG weld, vnitřní zátka = inner plug, vnitřní pouzdro = inner capsule, zářič = emitter, vnější pouzdro = outer capsule, vnější zátka = outer plug

### Conditions for Use of the Special Form Radioactive Material:

Type-approved SFRM Am1.N02 under identification designation CZ/1009/S - 96 may be used only subject to the compliance with the following conditions:

#### 1. Permitted Radioactive Content



The Am1.N02 special form radioactive material under identification designation CZ/1009/S – 96 may only contain a radionuclide emitter consisting of a mixture of natural beryllium powder and a  $^{241}\text{Am}$  radionuclide bound in the form of americium oxide, with the maximum activity of 7.4 GBq.

## **2. Handling, Maintenance and Inspections**

Handling, maintenance and operating inspections – reviews of the Am1.N02 SFRM must be performed in compliance with the requirements given in the valid version of “Instructions for Safe Handling of Ionizing Radiation Sources (ZIZ), QM-RP-006, Eckert & Ziegler Cesio s.r.o.”

Reviews of the Am1.N02 SFRM, operating stability test and long-term stability test performed in accordance with the above document under ISO 9978 “Radiation Protection – Sealed Radioactive Sources –Leakage Test Methods 1992” must be documented by an official record and archived throughout the life of the SFRM.

## **3. Quality Assurance**

The Am1.N02 special form radioactive material under identification designation CZ/1009/S – 96 and with the given serial number must be manufactured in accordance with the technical drawing “Am – Be NEUTRON SOURCE Am1.N02, 1. 207.02.02 – 00:00 (4), BEBIG Isotopentechnik und Umweltdiagnostik GmbH, of 2 May/28 July 1995”, in accordance with the approved procedures and with the document titled “Quality Assurance Programme (to meet the requirements of ISO 9001, ISO13485 and Decree no. 132/2008 Sb.), Q940-001“, in the valid version.

The manufacturer must document the conformity of the Am1.N02 special form radioactive material, under identification designation CZ/1009/S – 96 and with the given serial number, with the approved type by a written Declaration of Conformity pursuant to Section § 6 (2) (c) of Decree no. 317/2002 Sb., On type approval of packaging for shipment, storage and disposal of nuclear materials and radioactive substances, on type approval of ionizing radiation sources, and on shipment of nuclear materials and specified radioactive substances (on type approval and shipment).

The Am1.N02 special form radioactive material under identification designation CZ/1009/S – 96 and with the given serial number may be put into circulation only if its conformity with the approved type was proved by the special form radioactive material acceptance test according to the valid version of the document “Closed Radionuclide Emitter (URZ) Conformity Verification, Methodology, QM – T – 541 Eckert & Ziegler Cesio s. r. o.”

## **4. Labelling**

The Am1.N02 special form radioactive material under identification designation CZ/1009/S – 96 must be labelled with the serial number and the identification designation CZ/1009/S – 96 in a clear, legible and durable manner. In case it is not technically practicable to place the identification designation onto the capsule of the special form radioactive material, it can be replaced by the type approval decision.

## **5. Reporting of Accidents**

If any defect or accident accompanied with damage to the Am1.N02 special form radioactive material under identification designation CZ/1009/S – 96 occurs in handling it, the SFRM

