Canada's Nuclear Regulator
L'organisme de réglementation nucléaire du Canada

Certificate

for
Radiation Device

Certificate Number	Date of Issue	Date of Expiry
R-061-3030-1-2033	March 06, 2017	January 31, 2033

The radiation device identified below is certified by the Canadian Nuclear Safety Commission pursuant to paragraph 21(1)(h) of the *Nuclear Safety and Control Act* and section 12 of the *Nuclear Substances and Radiation Devices Regulations.*

Manufacturer: QSA Global, Inc.

Make and Model: QSA Global 1075 SCARPro

Prev. Mfr. Name:

Device Type: EXPOSURE DEVICE

Description: The 1075 SCARPro is used for industrial radiography. The device consists of a stainless steel cylindrical housing, around tungsten shielding, and a source assembly. The device has a tungsten shielding body and a tungsten shutter. The source chamber is curved to further shield radiation. The device is protected by a plastic jacket with an integrated lifting handle. A remote control crank or a hand crank is attached to the device in order to project/retract the source within the device.

The Model 1075 SCARPro can be used in two different configurations. A collimator is attached for small controlled area radiography (SCAR) or a front plate is attached with the use of a guide tube for source projection (Pro).

The overall dimensions of the 1075 SCARPro without guide tubes attached are Height 19.05 cm by Length 29.2 cm by Width 15.24 cm and a Maximum Weight of 18.14 kg.

Refer to the Summary Evaluation Sheet (CNSC Document No. 5199029) for further information. Reference CNSC Application No. 50334.

The radiation device may contain any of the following nuclear substances in a quantity not exceeding the corresponding quantity indicated:

Nuclear Substance	Maximum Quantity
Selenium 75	3 TBq

Designated Officer pursuant to paragraph 37(2)(a) of the
Nuclear Safety and Control Act

Summary Evaluation
For certificate number R-061-3030-1-2033

1. Identification of Radiation Device

Device Type:	Exposure Device
Manufacturer:	QSA Global, Inc.
Model(s):	1075 SCARPro

2. Description

The radiation device is comprised of a stainless steel cylindrical housing, around tungsten shielding, and a source assembly. The device has a tungsten shielding body and a tungsten shutter. The source chamber is curved to further shield radiation. The device is protected by a plastic jacket with an integrated lifting handle. A remote control crank or a hand crank is attached to the device in order to project/retract the source within the device.

The Model 1075 SCARPro can be used in two different configurations. A collimator is attached for small controlled area radiography (SCAR) or a front plate is attached with the use of a guide tube for source projection (Pro).

The overall dimensions of the 1075 SCARPro without guide tubes attached are Height 19.1 cm by Length 29.2 cm by Width 15.2 cm and a Maximum Weight of 18.2 kg.

3. Assembly Drawing

An illustration of the 1075 SCARPro is shown on QSA Global, Inc. drawing No. 107500 Rev E. [reference 2]. An overview of the 1075 SCARPro in both the SCAR and Pro configurations are shown in Figure 1. A drawing of the 1075 SCARPro in the Pro configuration is provided in Figure 2. A drawing of the 1075 SCARPro in the SCAR configuration is provided in Figure 3.

4. Intended Use

The radiation device is used for industrial gamma radiography.

5. Authorized Nuclear Substances

The radiation device is authorized to contain the sealed source model with the activity up to the amount shown in the following table.

Nuclear Substance	Maximum Activity	Source Assembly	Source Model	Special Form Certificate	Source Manufacturer
Se-75	3 TBq (81 Ci)	A425-6	X540/1 87501	QSA Global Inc. Amersham	USA/0502/S-96 USA/0335/S-96

6. Maximum Expected Radiation Dose

Maximum expected radiation dose with maximum activity of 3 TBq of Se-75

Nuclear Substance	Activity	Dose rate (µSv/hr)					
		@ Surface		@ 30 cm		@ 100 cm	
		Closed shutter	Open shutter	Closed shutter	Open shutter	Closed shutter	Open shutter
Se-75	3 TBq (81 Ci)	1410	810000	66.6*	23000	6	2000

*Calculated based on provided dose measurements

7. Conditions of Use and Storage

The radiation device is designed to operate or be stored in the temperature range of –40 °C to 149 °C. The humidity is not expected to affect the radiation device.

8. Leak Test

The leak test is to be conducted in accordance with QSA Global, Inc. document *1075 SCARPro Operating and Maintenance Manual* and in accordance with the *Nuclear Substances and Radiation Devices Regulations*.

9. Emergency and Accident Response

Emergency and accident responses are to be taken in accordance with *1075 SCARPro Operating and Maintenance Manual* and in accordance with the *Nuclear Substances and Radiation Devices Regulations*.

10. Design, Testing and Manufacturing Quality Assurance

The design, manufacture and testing of the radiation device are in accordance with ISO 3999:2004 and the QSA Global, Inc. document *QSA Global Quality System Manual.*

11. Inspection, Maintenance and Servicing

The radiation device is to be inspected and maintained in accordance with the instructions provided by QSA Global, Inc. document *1075 SCARPro Operating and Maintenance Manual* and in accordance with the *Nuclear Substances and Radiation Devices Regulations*. QSA Global, Inc. accepts the radiation device returns for disposal.

12. Transport Packaging

The radiation device is transported in a Type A package such as the Model 1075A Transport Package. The device has either the front plate assembly or the collimator assembly installed during transport.

13. Authorized Accessories and Configurations

The device may be configured as either the SCAR configuration with a collimator, or the Pro configuration with a front plate assembly. The device is authorized to use the following:

Equipment	Model No.s	Manufacturer
Control crank	TAN664XX, TAN693XX, TAN692XX, SAN882XX, SAN882RXX, SAN885XX	QSA Global Inc.
Guide Tubes	TAN48906, TAN48907, 48906-X, 48907-X, 48930-X, 95020, 95075, 95021, 95075, 95076	
Collimator	TCN782, TCN783, TCN784, TCN827, TCN828, TCN846, TCN714, TCN 717, TCN 799, TCN 527, TCNL 719, TCNU 719.	

Where ‘X’ is the length in feet up to a maximum of 50 ft.

14. Reference Documents

No.	Description	Date	CNSC Reference No.
1	Application	2016-03-07	4956657
2	Application Appendices	2016-03-07	4956676

15. Attachments

Figure 1: 1075 (SCAR mode and Pro mode)

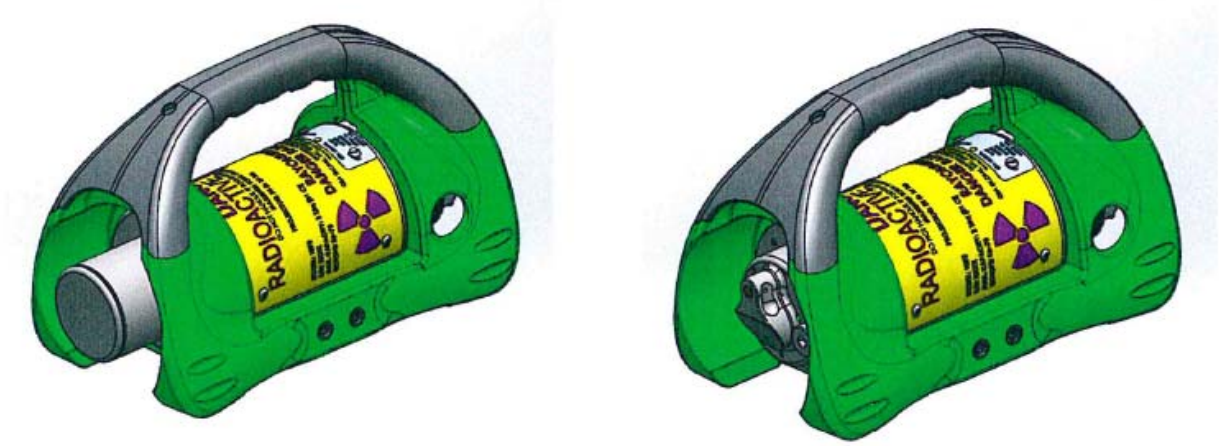

Figure 2: 1075 SCARPro (Pro Configuration)

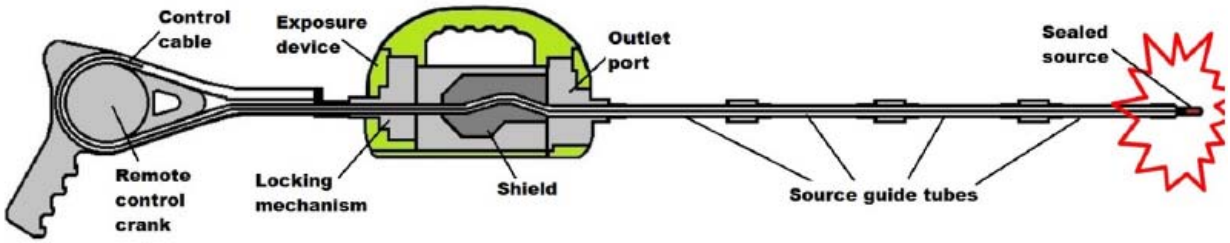

Figure 3: 1075 SCARPro (SCAR Configuration)