

IMPORT AND EXPORT LICENSE

NRC FORM 250P



United States of America
 Nuclear Regulatory Commission
 Washington, D.C. 20555

NRC LICENSE NO.: PCB14a.06

LICENSE EXPIRES: August 31, 2012

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Pursuant to the Atomic Energy Act of 1954, as amended, and the regulations issued by the Nuclear Regulatory Commission (NRC) pursuant thereto, and in reliance on statements and representations heretofore made by the applicant/licensee, this license is hereby issued authorizing the licensee to import and/or export the byproduct materials listed below, subject to the terms and conditions herein. This license is only valid if the licensee maintains the requisite NRC or Agreement State domestic licenses.

LICENSEE	ULTIMATE FOREIGN CONSIGNEE(S)
Source Production & Equipment Co., Inc. ATTN: Kelley Richardt 113 Teal Street St. Rose, Louisiana 70087 APPLICANT'S REFERENCE: CBP14a-5	Gilligan Engineering Services, Ltd. Andrews House Princess Way Low Prudhoe Industrial Estate Northumberland, NE426HB United Kingdom
INTERMEDIATE FOREIGN AND/OR DOMESTIC CONSIGNEE(S)	OTHER PARTY(IES) TO EXPORT/IMPORT
NONE	Listed on Pages 3 and 4

COUNTRY(IES) OF ULTIMATE DESTINATION: Argentina, Australia, Austria, Bangladesh, Belarus, Belgium, Bolivia, Brazil, Bulgaria, Canada, China and Hong Kong, Denmark, Estonia, Ethiopia, Finland, France, Germany, Ghana, Greece, Guatemala, Hungary, Ireland, Italy, Japan, Kazakhstan, Kuwait, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Niger, Norway, Paraguay, Philippines, Poland, Portugal, Romania, Russia, Singapore, Slovakia, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand, Turkey, United Kingdom, United States, and Vietnam.

**CONDITIONS, NOTES, AND DESCRIPTIONS OF 10 CFR PART 110, APPENDIX P,
 BYPRODUCT MATERIALS TO BE EXPORTED AND/OR IMPORTED**
 (NOTE: SEE PAGE 2 FOR DEFINITIONS OF CATEGORY 1 AND CATEGORY 2)

Import, from facilities listed on Pages 3 and 4, of Category 1 quantities of Ir-192 not to exceed 1,480 TBq per shipment, and Category 1 quantities of Se-75 not to exceed 370 TBq per shipment, contained in special forms or sealed sources for use in the manufacture of industrial gamma radiography and brachytherapy sources, is authorized.

Export to Ultimate Foreign Consignee(s), of Category 1 quantities not to exceed 200 TBq of Ir-192 contained in special forms or sealed sources for use in the manufacture or use of industrial gamma radiography and brachytherapy sources, is authorized.

Import and export, from and to countries listed as 'Country(ies) of Ultimate Destination,' Category 2 quantities of Co-60, Ir-192, Se-75, and Yb-169, contained in special forms or sealed sources for use in the manufacture or use of industrial gamma radiography and brachytherapy sources, is authorized.

Licensee is responsible for compliance with all applicable import, export, and other domestic regulatory requirements, including all terms and conditions of domestic materials licenses. If not already submitted with your application, licensee must submit information required by 10 CFR §110.32(d) and pertinent documentation required by 10 CFR §110.32(h) at least **24 hours prior to shipment**. See Page 2 for Mandatory Pre-shipment Notifications.

This license replaces CBP14a-5 and amends its authority by: 1) revising the list of 'Other Party(ies) to Import/Export'; 2) revising license conditions; 3) removing Yemen from the list of 'Country(ies) of Ultimate Destination;' and 4) incorporating the new license number format.

Neither this license nor any right under this license shall be assigned or otherwise transferred in violation of the provisions of the Atomic Energy Act of 1954, as amended.

This license is subject to the right of recapture or control by Section 103 of the Atomic Energy Act of 1954, as amended, and to all of the other provisions of said Act, now or hereafter in effect and to all valid rules and regulations of NRC.

THIS LICENSE IS INVALID UNLESS SIGNED BELOW
 BY AUTHORIZED NRC REPRESENTATIVE.

NAME AND TITLE: Scott W. Moore
 Scott W. Moore, Deputy Director
 Office of International Programs

DATE OF ISSUANCE: September 13, 2010

IMPORT AND EXPORT LICENSE

MANDATORY PRE-SHIPMENT NOTIFICATIONS PER 10 CFR PART 110.50(b)(4)

The following Prior Shipment Notifications must be made to both the NRC and, in case of exports, the government of the importing country in advance of each shipment:

Prior Shipment Notifications to the NRC are to be emailed to hoo.hoc@nrc.gov (preferred method) or faxed to the NRC at 301-816-5151. In the subject line of the email or on the fax cover page include: "10 CFR 110.50(b)(4) Notification." For technical assistance, use the same e-mail address or call 301-816-5100.

Prior Shipment Notifications to the government of the importing country must be emailed or faxed to the appropriate foreign government authorities. To locate the point-of-contact for international Prior Shipment Notifications see: <http://www-ns.iaea.org/downloads/rw/imp-export/import-export-contact-points.pdf>. In the subject line of the email or on the fax cover page include: "NOTIFICATION TO THE IMPORTING STATE PRIOR TO SHIPMENT OF CATEGORY 1 OR 2 RADIOACTIVE SOURCES." For technical assistance or for countries not listed, contact the Office of International Programs' export/import staff at 301-415-2344.

Table 1: Appendix P to Part 110–Category 1 and Category 2 Radioactive Material Threshold Limits

Radioactive Material	Category 1		Category 2	
	Terabequerels (TBq)	Curies (Ci) ¹	Terabequerels (TBq)	Curies(Ci) ¹
Americium-241 (Am-241)	60	1,600	0.6	16
Americium-241/Beryllium (Am-241/Be)	60	1,600	0.6	16
Californium-252 (Cf-252)	20	540	0.2	5.4
Curium-244 (Cm-244)	50	1,400	0.5	14
Cobalt-60 (Co-60)	30	810	0.3	8.1
Cesium-137 (Cs-137)	100	2,700	1.0	27
Gadolinium-153 (Gd-153)	1,000	27,000	10.0	270
Iridium-192 (Ir-192)	80	2,200	0.8	22
Plutonium-238 ² (Pu-238)	60	1,600	0.6	16
Plutonium-239/Beryllium ² (Pu-239/Be)	60	1,600	0.6	16
Promethium-147 (Pm-147)	40,000	1,100,000	400	11,000
Radium-226 ³ (Ra-226)	40	1,100	0.4	11
Selenium-75 (Se-75)	200	5,400	2.0	54
Strontium-90 (Y-90)	1,000	27,000	10.0	270
Thulium-170 (Tm-170)	20,000	540,000	200	5,400
Ytterbium-169 (Yb-169)	300	8,100	3.0	81

Calculation of Shipments Containing Multiple Sources or Radionuclides:

The "sum of fractions" methodology for evaluating combinations of radionuclides being transported is to be used when import or export shipments contain multiple sources or multiple radionuclides. The threshold limit values used in a sum of the fractions calculation must be the metric values (i.e., TBq).

I. If multiple sources and/or multiple radionuclides are present in an import or export shipment, the sum of the fractions of the activity of each radionuclides must be determined to verify the shipment is less than the Category 1 or 2 limits of Table 1, as appropriate. If the calculated sum of the fractions ratio, using the following equation, is greater than or equal to 1.0, then the import or export shipment exceeds the threshold limits of Table 1 and the applicable security provisions of this part apply.

II. Use the equation below to calculate the sum of the fractions ratio by inserting the actual activity of the applicable radionuclides or of the individual sources (of the same radionuclides) in the numerator of the equation and the corresponding threshold activity limit from the Table 1 in the denominator of the equation. Ensure the numerator and denominator values are in the same units and all calculations must be performed using the TBq (i.e., metric) values of Table 1.

- R1 = activity for radionuclides or source number 1 AR1 = activity limit for radionuclides or source number 1
- R2 = activity for radionuclides or source number 2 AR2 = activity limit for radionuclides or source number 2
- Rn = activity for radionuclides or source number n ARn = activity limit for radionuclides or source number n

$$\sum_{i=1}^n \left[\frac{R_i}{AR_i} + \frac{R_2}{AR_2} + \frac{R_n}{AR_n} \right] \geq 1$$

¹ The values to be used to determine whether a license is required are given in TBq. Curies (Ci) values are provided for practical usefulness only and are rounded after conversion.

² The limits for Pu-238 and Pu-239/Be in this table apply for imports to the U.S. The limits for exports of Pu-238 and Pu-239/Be can be found in § 110.21.

³ Discrete sources of Radium-226.

OTHER PARTY(IES) TO IMPORT/EXPORT
(Brokers and Suppliers)

ANSTO Radiopharmaceuticals and Industrials
(ARI)
PMB 1, Menai NSW 2234
Australia

Belgium Reactor 2 and their brokers
(BR-2 Reactor)
Mol
Belgium

MDS Nordion
Zoning Industriel Avenue de l'Espérance
Fleurus
B-6220
Belgium

Chalk River Reactor and their brokers
Chalk River
Ontario
Canada

MDS Nordion
100 International Blvd.
Ontario
Canada

Rez Reactor
Nuclear Research Institute Rez plc
Husinec- Rez 130
250 68 Rez
Czech Republic

ETRR-2 Reactor
Atomic Energy Authority, INSHAS, ETRR-2,
P. O. BOX 13759,
Cairo
Egypt

HFR Reactor
Institut Laue – Langevin
BP 156, 6, rue Jules Horowitz
38042 Grenoble Cedex 9
France

Orphee Reactor
Saclay Nuclear Research Centre
Postal Address 91191, Gif-sur-Yvette Cedex
France

Osiris Reactor
Commissariat à l'Énergie Atomique – Saclay
Direction de l'Énergie Nucléaire
Direction déléguée aux Activités Nucléaires de
Saclay
Département des Réacteurs et des Services
Nucléaires
91191, Gif-sur-Yvette Cedex
France

Phebus Reactor
CEA Cadarache
13108 Saint-Paul-léz-Durance
France

Dinatron Technology GmbH
(Michael Kuznetsov)
Ferdinandstr. 25-27
20095 Hamburg
Germany

FRM-II Reactor
Technische Universität München
Lichtenbergstr. 1
85748 Garching
Germany

BER-II Reactor
Hahn-Meitner-Institut
Lise-Meitner Campus
Hahn-Meitner-Platz 1
(ehemals Glienicke Str. 100)
14109 Berlin
Germany

Institute of Isotopes Co. Ltd.
H-1535 Budapest, P.O.B. 851
H-1121 Budapest, Konkoly-Thege
Miklos ut 29-33
Hungary

OTHER PARTY(IES) TO IMPORT/EXPORT
(Brokers and Suppliers, Cont'd)

Dhruva Reactor
Bhabha Atomic Research Centre
Trombay
Mumbai- 400 085
India

EWG 1 Reactor
National Nuclear Center
Semipalatinsk Test Site
Kurchatov
Kazakhstan

NRG Petten Reactor and their brokers
Westerduinweg 3
NL 1755 ZG Petten
Netherlands 46-155-22-1874

RP-10 Reactor
Instituto Peruano De Energia Nuclear
2003- Av. Canada 1470
San Borja
Peru

Polatom Spotka z o.o.
05-400 Otwock-Swierk
Poland

Pitesti TRIGA-II Reactor
RAAN- SCN, CP 78
Pitesti, 0300 Arges
Romania

Dimitrovgrad Reactor (RIAR) and their
brokers
Sverdlovsk Region
Russia

Institute of Nuclear Materials
Zarechnyi, Sverdlovsk Region
Russia 624501

Mayak Reactor and their brokers
Ozyorsk
Cheyabinski Region
Russia

PNPIRAS Gatchina Reactor and their brokers
St. Petersburg
Leningrad District
Russia

Zarechnyi Reactor and their brokers
Sverdlovsk Region
Russia

Gammatech NDT Supplies (PTY)
Ltd., PO Box 264786, Three Rivers 1935
South Africa

SAFARI-1 Reactor
Pelindaba
South Africa

HANARO Nuclear Center
Center for Applications of Radioisotopes and
Radiation
Korea Atomic Energy Research Institute
P.O. Box 105, Yusung_Gu,
Taejon, 305-600
South Korea

Studsvik Nuclear AB Reactor and their brokers
611 82 Nykoping
Sweden

WWR-M Kiev Reactor
Insitute of Nuclear Physics
Kiev
Ukraine

WWR-SM, Institute of Nuclear Physics- Republic of
Uzbekistan
Ulugbek 100214
Tashkent
Uzbekistan

Gilligan Engineering Services, Ltd
Andrews House
Princess Way
Low Prudhoe Industrial Estate
Northumberland, NE426HB
United Kingdom

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