

**IMPORT AND EXPORT LICENSE**

<p>NRC FORM 250P</p>  <p align="center"><b>United States of America</b> Nuclear Regulatory Commission Washington, D.C. 20555</p>	<p>NRC LICENSE NO.: <b>PCB6.10</b></p> <p>LICENSE EXPIRES: <b>October 1, 2017</b></p> <p align="right">Page 1 of 6</p>
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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.

<p align="center"><b>LICENSEE</b></p> <p>Alpha-Omega Services, Inc. Attn: Troy Hedger 9156 Rose Street Bellflower, CA 90706</p> <p>APPLICANT'S REFERENCE: Amd 10 Request</p>	<p align="center"><b>ULTIMATE FOREIGN CONSIGNEE(S)</b></p> <p align="center">Listed on Page 3</p> <p align="center">(Suppliers / Recipients)</p>
<p align="center"><b>INTERMEDIATE FOREIGN AND/OR DOMESTIC CONSIGNEE(S)</b></p> <p align="center">NONE</p>	<p align="center"><b>OTHER PARTY(IES) TO EXPORT/IMPORT</b></p> <p align="center">Listed on Pages 4 through 6</p> <p align="center">(Recipients / Suppliers)</p>

**COUNTRY(IES) OF ULTIMATE DESTINATION:** Canada, Japan and United States

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

Import and export, from and to Canada, of Category 1 quantities of Co-60 (not to exceed 244.2 TBq per shipment), contained in sealed sources for use in medical teletherapy devices, are authorized. **For Category 1 exports, see conditions on Page 3.**

Import and export, from and to Japan, of Category 2 quantities of Ir-192, contained in sealed sources used in medical brachytherapy devices, are authorized.

Licensee is responsible for ensuring that all U.S. end users of Co-60 sources and Ir-192 sources have obtained and hold valid and appropriate material possession licenses prior to import and receipt of any sealed sources containing radioactive material(s). Licensee, if not already submitted with your application, 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 PCB6.09 and amends its authority by: revising the street address of Gamma Knife Center of the Pacific.

<p>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.</p> <p>This license is subject to the right of recapture or control by Section 108 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.</p>	<p align="center">THIS LICENSE IS INVALID UNLESS SIGNED BELOW BY AUTHORIZED NRC REPRESENTATIVE</p> <p>NAME AND TITLE: <u>Scott W. Moore</u> Scott W. Moore, Deputy Director Office of International Programs</p> <p>DATE OF ISSUANCE: <u>May 20, 2010</u></p>
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**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](mailto: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) <sup>1</sup>	Terabequerels (TBq)	Curies(Ci) <sup>1</sup>
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
Cunum-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 <sup>2</sup> (Pu-238)	60	1,600	0.6	16
Plutonium-239/Beryllium <sup>3</sup> (Pu-239/Be)	60	1,600	0.6	16
Promethium-147 (Pm-147)	40,000	1,100,000	400	11,000
Radium-226 <sup>3</sup> (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

$$\sum_1^n \left[ \frac{R_1}{AR_1} + \frac{R_2}{AR_2} + \frac{R_n}{AR_n} \right] \geq 1$$

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

<sup>2</sup> 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.

<sup>3</sup> Discrete sources of Radium-226.



**OTHER PARTY(IES) TO IMPORT/EXPORT**

**(Recipients / Suppliers)**

Alpha-Omega Services, Inc.  
1282 Starks Road  
Edgerly, LA 70668

Gamma Knife Center of the Pacific  
2226 Liliha Street, Level B2  
Honolulu, HI 96817

Baylor All Saints Medical Center Fort Worth  
1400 Eighth Avenue  
Fort Worth, TX 76132

Gamma Knife Center at Kettering  
Medical Center  
3535 Southern Boulevard  
Kettering, OH 45429

Caelian Medical, LLC  
800 Century Drive  
Mechanicsburg, PA 17055

Gamma Knife of St. Louis  
Barnes Jewish Hospital  
216 S. Kings Highway Boulevard  
St. Louis, MO 63110

Chippenham and Johnston-Willis  
Hospitals, Inc.  
d/b/a CJW Medical Center  
Johnston-Willis Campus  
Chippenham Campus  
7101 Jahnke Road  
Richmond, VA 23225

Good Samaritan Hospital  
1225 Wilshire Boulevard  
Los Angeles, CA 90017

Chippenham and Johnston-Willis  
Hospitals, Inc.  
d/b/a CJW Medical Center  
Johnston-Willis Campus  
1401 Johnston-Willis Drive  
Richmond, VA 23235

Indiana University Medical Center  
541 Clinical Drive  
Indianapolis, IN 46206

Cooper Health System  
Robert Wood Johnson Medical School  
at Camden  
3 Cooper Plaza  
Camden, NJ 08103

John D. Archbold Memorial Hospital  
116 Mimosa Drive  
Thomasville, GA 31792

Deaconess Medical Center  
West 910 5<sup>th</sup> Avenue, Suite 100  
Spokane, WA 99204

MD Anderson Cancer Center  
1515 Holcombe Boulevard  
Houston, TX 77030

Doctors Hospital  
5000 University Drive  
Coral Gables, FL 33146

Medical University of South Carolina  
Medical University Hospital  
Department of Radiation Oncology  
169 Ashley Avenue  
Room 165C (Treatment Room 1)  
Charleston, SC 29425

Froedtert Memorial Lutheran Hospital  
9200 Wisconsin Avenue  
Milwaukee, WI 53226

Memorial Hermann the Woodlands  
9250 Pinecroft Drive  
Shenandoah, TX 77380

Mercy Gamma Knife Center of Long Island  
Mercy Medical Center  
1000 North Village Avenue  
Rockville Center, NY 11570

Neurologic & Orthopedic of Chicago  
4501 N. Winchester  
Chicago, IL 60640

New England Gamma Knife Center  
593 Eddy Street  
Providence, RI 02903

New York University Medical Center  
560 First Avenue  
New York, NY 10016

Northwest Hospital  
1560 North 115<sup>th</sup> Street  
Seattle, WA 98133

OSF Saint Francis Medical Center  
530 NE Glen Oak Avenue  
Peoria, IL 61637

Presbyterian Hospital of Dallas  
Gamma Knife  
8200 Walnut Hill Lane  
Dallas, TX 75231

Providence Portland Medical Center  
4805 NE Glisan  
Portland, OR 97213

Puerto Rico Medical Center  
Centro Medico de Rio Piedras  
First Floor, Central Building  
Carr 22 Barrio Monacillos  
San Juan, Puerto Rico 00921

Richland Memorial Hospital  
7 Medical Park  
Columbia, SC 29203

Rocky Mountain Gamma Knife Center  
4231 West 16<sup>th</sup> Street  
Denver, CO 80204

Roswell Park Cancer Institute  
Elm & Carlton Street  
Buffalo, NY 14263

San Antonio Hospital  
999 San Bernardino Road  
Upland, CA 91786

Sierra Medical Center  
1625 Medical Center Drive  
El Paso, TX 79902

Skyline Medical Center  
3444 Dickerson Pike  
Nashville, TN 37207

St. Joseph Hospital  
611 St. Joseph Avenue  
Marshfield, WI 54449

St. Joseph's Hospital  
5665 Peachtree Dunwoody Road  
Atlanta, GA 30342

St. Luke's Medical Center  
2900 West Oklahoma Avenue  
Milwaukee, WI 53201

SUNY Upstate Medical University  
750 East Adams Street  
Syracuse, NY 13210

Sutter Medical Center  
5151 F Street  
Sacramento, CA 95602

Tenet Good Samaritan, Inc.  
d/b/a Good Samaritan Hospital  
1309 N. Flagler Drive  
West Palm Beach, FL 33401

Terrebonne General Medical Center  
8166 Main Street  
Houma, LA 70360

The Gamma Knife Center  
Northwestern Memorial Hospital  
250 E. Superior Street  
Chicago, IL 60611

