

IMPORT AND EXPORT LICENSE

NRC FORM 250P



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

NRC LICENSE NO.: PCB6.06

LICENSE EXPIRES: October 31, 2010

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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">LICENSEE</p> <p>Alpha-Omega Services, Inc. ATTN: Troy Hedger 9156 Rose Street Bellflower, CA 90706</p> <p>APPLICANT'S REFERENCE: AMD 6 Request</p>	<p align="center">ULTIMATE FOREIGN CONSIGNEE(S)</p> <p align="center">Listed on Page 3</p>
<p align="center">INTERMEDIATE FOREIGN AND/OR DOMESTIC CONSIGNEE(S)</p> <p align="center">NONE</p>	<p align="center">OTHER PARTY(IES) TO EXPORT/IMPORT</p> <p align="center">Listed on Pages 3 and 4</p> <p align="center">(Supplier/Recipient)</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, Category 1 quantities of Cobalt-60 (not to exceed 224.44 TBq per shipment), contained in sealed sources used in medical teletherapy devices, is authorized.

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

Alpha-Omega Services, Inc. is responsible for ensuring that all end users of Cobalt-60 sources and Iridium-192 sources have obtained and hold valid and appropriate material possession licenses prior to receipt of any sealed sources containing radioactive material(s). Alpha-Omega Services, Inc., 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.

License expiration is based on timely renewal status of California Material Possession License No. 3925-19, Amendment 33. This license replaces CBP6-5 and amends its authority to extend the expiration date to October 31, 2010, incorporate the new license number format, and add additional party(ies) to import and/or export.

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 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.

THIS LICENSE IS INVALID UNLESS SIGNED BELOW
 BY AUTHORIZED NRC REPRESENTATIVE

NAME AND TITLE: Margaret M. Doane
 Margaret M. Doane, Director
 Office of International Programs

DATE OF ISSUANCE: October 21, 2008

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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	60	1,600	0.6	16
Americium-241/Beryllium	60	1,600	0.6	16
Californium-252	20	540	0.2	5.4
Curium-244	50	1,400	0.5	14
Cobalt-60	30	810	0.3	8.1
Cesium-137	100	2,700	1.0	27
Gadolinium-153	1,000	27,000	10.0	270
Iridium-192	80	2,200	0.8	22
Plutonium-238 ²	60	1,600	0.6	16
Plutonium-239/Beryllium ²	60	1,600	0.6	16
Promethium-147	40,000	1,100,000	400	11,000
Radium-226 ³	40	1,100	0.4	11
Selenium-75	200	5,400	2.0	54
Strontium-90 (Y-90)	1,000	27,000	10.0	270
Thulium-170	20,000	540,000	200	5,400
Ytterbium-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

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

MANDATORY NOTIFICATIONS: Notifications required by 10 CFR 110.50(b)(4) are to be emailed to hoo1@nrc.gov (preferred method) or faxed to 301-816-5151. In the subject line of the email or on the fax cover page include: "10 CFR 110.50(b)(4) Notification." To contact someone in the Operations Center, use the same e-mail address or call 301-816-5100. Difficulties notifying the U.S. Nuclear Regulatory Commission must be promptly reported to the Office of International Programs' import/export licensing staff at 301-415-2342 or 415-3329.

¹ 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.

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.

ULTIMATE FOREIGN CONSIGNEE(S)
(Brokers and Suppliers)

For import and export of 10 CFR §110 Appendix P, Category 1 quantity of Cobalt-60

MDS Nordion
447 March Road
Ottawa, Ontario
K2K 1X8
Canada

For import and export of 10 CFR §110 Appendix P, Category 2 quantity of Iridium-192

Japan Radioisotope Association (JRIA)
28-45 Honkomagome 2-Chome, Bunkyo-Ku
Tokyo 113-8941

OTHER PARTY(IES) TO IMPORT/EXPORT

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

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

Caelian Medical, LLC
800 Century Drive
Mechanicsburg, PA 17055

The Gamma Knife Radiosurgery Center
University of Arkansas for Medical Science
4301 West Markham Street
Little Rock, AR 72205

Central New York Gamma Knife Center
750 East Adams Street
Syracuse, NY 13210

HealthSouth Doctors Hospital
5000 University Drive
Coral Gables, FL 33146

Deaconess Medical Center
West 910 5th Avenue, Suite 100
Spokane, WA 99204

Indiana University Medical Center
541 Clinical Drive
Indianapolis, IN 46206

Froedtert Memorial Lutheran Hospital
9200 Wisconsin Avenue
Milwaukee, WI 53226

Memorial Hermann the Woodlands
9250 Pinecroft Drive
Shanandoah, TX 77380

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

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

