

# IMPORT AND EXPORT LICENSE

NRC FORM 250P (12/05)



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

**NRC LICENSE NO.: CBP6-5**

**LICENSE EXPIRES: January 31, 2009**

Page 1 of 4

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**

Alpha-Omega Services, Inc.  
9156 Rose Street  
ATTN: Troy Hedger  
Bellflower, California 90706

APPLICANT'S REFERENCE: AMD 5 request

**ULTIMATE FOREIGN CONSIGNEE(S)**

Listed on Page 3.

**INTERMEDIATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES) AND/OR IN THE U.S.**

NONE

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

Listed on pages 3 and 4.

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

**CONDITIONS, NOTES, AND DESCRIPTIONS 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 MDS Nordion in Canada, Category 1 quantity of Cobalt-60, contained in sealed sources used in medical teletherapy devices.

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

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 date is based on January 31, 2009 expiration date of consent from the Canadian Nuclear Safety Commission.

This license replaces CBP6-4 and amends its authority to change Troy Hedger as new contact for Alpha-Omega Services, Inc.

Neither this license or 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: Scott W. Moore, Deputy Director  
Office of International Programs

DATE OF ISSUANCE: March 13, 2008

# IMPORT AND EXPORT LICENSE

**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	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 <sup>2</sup>	60	1,600	0.6	16
Plutonium-239/Beryllium <sup>2</sup>	60	1,600	0.6	16
Promethium-147	40,000	1,100,000	400	11,000
Radium-226 <sup>3</sup>	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

R2 = activity for radionuclides or source number 2

RN = activity for radionuclides or source number n

AR1 = activity limit for radionuclides or source number 1

AR2 = activity limit for radionuclides or source number 2

ARN = activity limit for radionuclides or source number n

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

**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 415-1678.

<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.

**ULTIMATE FOREIGN CONSIGNEE(S)**

**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 AND/OR EXPORT**

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|---|--|
| 1. Alpha-Omega Services, Inc.<br>1282 Starks Road<br>Edgerly, Louisiana 70668   | 8. Gamma Knife of St. Louis<br>Barnes Jewish Hospital<br>216 S. Kings Highway Blvd.<br>St. Louis, Missouri 63110                     |
| 2. Caelian Medical, LLC<br>800 Century Drive<br>Mechanicsburg, Pennsylvania 17055   | 9. HealthSouth Doctors Hospital<br>5000 University Drive<br>Coral Gables, Florida 33146  |
| 3. Central New York Gamma Knife Center<br>750 East Adams Street<br>Syracuse, New York 13210   | 10. Indiana University Medical Center<br>541 Clinical Drive<br>Indianapolis, Indiana 46206   |
| 4. Deaconess Medical Center<br>West 910 5 <sup>th</sup> Avenue, Suite 100<br>Spokane, Washington 99204  | 11. Mercy Gamma Knife Center of Long Island<br>Mercy Medical Center<br>1000 North Village Avenue<br>Rockville Center, New York 11570 |
| 5. Froedtert Memorial Lutheran Hospital<br>9200 Wisconsin Avenue<br>Milwaukee, Wisconsin 53226  | 12. Neurologic & Orthopedic of Chicago<br>4501 N. Winchester<br>Chicago, Illinois 60640  |
| 6. The Gamma Knife Center<br>Northwestern Memorial Hospital<br>250 E. Superior Street<br>Chicago, Illinois 60611                                | 13. New England Gamma Knife Center<br>593 Eddy Street<br>Providence, Rhode Island 02903  |
| 7. The Gamma Knife Radiosurgery Center<br>University of Arkansas for Medical Science<br>4301 West Markham Street<br>Little Rock, Arkansas 72205 |  |

## OTHER PARTY(IES) TO IMPORT AND/OR EXPORT

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|---|--|
| 14. The New Jersey Neuroscience Institute at<br>JFK Medical Center<br>65 Jamer Street<br>Edison, New Jersey 08818 | 22. St. Luke's Medical Center<br>2900 West Oklahoma Avenue<br>Milwaukee, Wisconsin 53201   |
| 15. Northwest Hospital<br>1560 North 115 <sup>th</sup> Street<br>Seattle, Washington 98133                        | 23. Sutter Medical Center<br>5151 F Street<br>Sacramento, California 95602   |
| 16. OSF Saint Francis Medical Center<br>530 NE Glen Oak Avenue<br>Peoria, Illinois 61637                          | 24. University Hospital of Cleveland<br>11100 Euclid Avenue<br>Cleveland, Ohio 44106   |
| 17. Providence Portland Medical Center<br>4805 NE Glisan<br>Portland, Oregon 97213                                | 25. University of Kentucky Hospital<br>102 Animal Pathology<br>Lexington, Kentucky 40536   |
| 18. Puerto Rico Medical Center<br>Intersection Moncillaos Ward<br>Rio Piedras<br>San Juan, Puerto Rico 00922      | 26. USC University Hospital<br>1500 San Pablo Street<br>Los Angeles, California 90033  |
| 19. Richland Memorial Hospital<br>7 Medical Park<br>Columbia, South Carolina 29203                                | 27. Wake Forest University School of Medicine<br>And NC Baptist Hospital<br>Medical Center Blvd<br>Winston-Salem, North Carolina 27157 |
| 20. Skyline Medical Center<br>3444 Dickerson Pike<br>Nashville, Tennessee 37207                                   | 28. Washington Hospital Center<br>110 Irving Street, NW<br>Washington, DC 20010  |
| 21. St. Joseph Hospital<br>611 St. Joseph Avenue<br>Marshfield, Wisconsin 54449                                   | 29. West Virginia University Hospital<br>One Medical Center Drive<br>Morgantown, West Virginia 26506                                   |

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