



**ENERGYSOLUTIONS**

Commercial Processing Division 1560 Bear Creek Road Oak Ridge, TN 37831 865 481-0222

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January 6, 2010

Mr. Scott Moore  
Deputy Director - Office of International Programs  
US Nuclear Regulatory Commission  
Mail Stop 4E21  
Washington, DC 20555

**JAN 08 2010**

Dear Mr. Moore:

In accordance with instructions in 10 CFR 110.4 we are providing the attached NRC Form 7 as notification of EnergySolutions' intent to export empty containers to Bruce Power Station in Ontario, Canada.

These are reusable containers dedicated to radioactive materials shipments and the interiors are surficially contaminated, albeit at very low levels. The containers are being exported under the General License for Export provisions of 10 CFR 110.-21(e), 22(a), and 23(c) for Special Nuclear Material, Source Material, and By-Product Material. The loaded containers will subsequently be collected by Monserco (a licensed Canadian broker) and eventually shipped to EnergySolutions' Oak Ridge, TN processing facility as authorized by IW017.

Contact me if additional information or clarification is required.

Respectfully,



Philip Gianutsos, CHP  
Radiation Safety Officer  
Commercial Processing Division

Attachments:  
NRC Form 7

cc: Mr. Tim Ryder, Monserco

<b>NRC FORM 7</b> (8-2007) 10 CFR 110	<b>U.S. NUCLEAR REGULATORY COMMISSION</b>	<b>APPROVED BY OMB: NO. 3150-0027</b>	<b>EXPIRES: 06/30/2009</b>
<b>APPLICATION FOR NRC EXPORT/IMPORT,                  LICENSE, AMENDMENT, OR RENEWAL</b> (See Instructions on Page 5)		Estimated burden per response to comply with this mandatory collection request: 2.4 hours. This submittal is reviewed to ensure that the applicable statutory, regulatory, and policy considerations are satisfied. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0027), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.	
<b>PART A. FOR NRC USE ONLY</b>	<input type="checkbox"/> PUBLIC OR <input type="checkbox"/> NON-PUBLIC	DATE RECEIVED <b>JAN 08 2010</b>	
LICENSE NUMBER	DOCKET NUMBER	ADAMS ACCESSION NUMBER	
<b>PART B. TO BE COMPLETED FOR ALL LICENSES, AMENDMENTS, OR RENEWALS</b> (If more space is needed to complete any of the items, use Pages 3-4 first, and then attach additional sheets, if necessary.)			
1. NAME AND ADDRESS OF APPLICANT/LICENSEE <b>EnergySolutions</b> 1560 Bear Creek Rd Oak Ridge, TN 37831	1a. NAME OF APPLICANT'S CONTACT Philip Gianutsos	1b. APPLICANT'S REFERENCE NUMBER ---N/A---	
	1c. PHONE NUMBER 865 220-1478	1d. FAX NUMBER 865 220-1668	
	1e. E-MAIL ADDRESS pgianutsos@energysolutions.com		
2. TYPE OF NRC LICENSE REQUESTED (Check One) <input type="checkbox"/> EXPORT (Parts B, C, E) <input checked="" type="checkbox"/> NOTIFICATION OF EXPORT OF INCIDENTAL RADIOACTIVE MATERIAL (PART C,E) <input type="checkbox"/> IMPORT (Parts B, D, E) <input type="checkbox"/> COMBINED EXPORT/IMPORT (Parts B, C, D, E) <input type="checkbox"/> AMENDMENT/RENEWAL Existing License Number:			
3. CONTRACT NUMBER(S) RWSA dated 10/17/07	4. FIRST SHIPMENT DATE 1/01/2010	5. LAST SHIPMENT DATE 12/31/2010	6. PROPOSED EXPIRATION DATE ---N/A---
<b>PART C. TO BE COMPLETED FOR EXPORT ONLY OR COMBINED LICENSES, AMENDMENTS, OR RENEWALS</b> (If more space is needed to complete any of the items, use Pages 3-4 first, and then attach additional sheets, if necessary.)			
7. NAME(S) / ADDRESS(ES) OF SUPPLIERS AND/OR OTHER PARTIES TO THE EXPORT  <b>EnergySolutions</b> 1560 Bear Creek Rd Oak Ridge, TN 37831	8. NAME(S) / ADDRESS(ES) OF INTERMEDIATE FOREIGN CONSIGNEE(S)  ---NONE---		9. NAME(S) / ADDRESS(ES) OF ULTIMATE FOREIGN CONSIGNEE(S)  Bruce Power Inc. Building B10,177 Tie Road Municipality of Kincardine R.R #2 Tiverton, Ontario NOG 2T0 Contact: Kurt Wigle Ph: 519-361-2673 ext. 3745
7a. LIST FUNCTIONS PERFORMED/SERVICE PROVIDED  Empty, reusable containers provided by EnergySolutions to Bruce Power.	8a. INTERMEDIATE USE(S)  ---NONE---		9a. ULTIMATE END USE(S)  The containers are for use by Bruce Power for packaging of radioactive material. A licensed Canadian broker (Monserco) will eventually return the containers to Oak Ridge, TN, as authorized by IW017.
10. DESCRIPTION OF RADIOACTIVE MATERIALS, SEALED SOURCES, NUCLEAR FACILITIES, EQUIPMENT, OR COMPONENTS; FOR NUCLEAR EQUIPMENT INCLUDE TOTAL DOLLAR VALUE OF EQUIPMENT FOR EXPORT  SEE PAGE 3	10a. MAX TOTAL VOLUME/ELEMENT WGT (KG), OR TOTAL ACTIVITY (TBq)  Total for all containers:  Approx 0.033 TBq (0.898 Ci) of byproduct material.  Approx 0.021 kgs of source Material  < 0.01 grams of SNM (Pu)	10b. MAX ENRICHMENT OR WGT %  No enriched U	10c. MAX ISOTOPE WGT (KG)  Total for all containers:  PU-239 8.45E-7 PU-240 2.31E-7
11. FOREIGN OBLIGATIONS (BY COUNTRY AND BY PERCENTAGE OF MAXIMUM TOTAL VOLUME)  -----NONE-----			

NRC FORM 7  
(8-2007)  
10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

**APPLICATION FOR NRC EXPORT/IMPORT  
LICENSE, AMENDMENT, OR RENEWAL (Continued)**

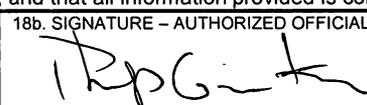
<b>LICENSE NUMBER</b>	<b>DOCKET NUMBER</b>	<b>ADAMS ACCESSION NUMBER</b>	<input type="checkbox"/> PUBLIC OR <input type="checkbox"/> NON-PUBLIC
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**PART D. TO BE COMPLETED FOR IMPORT ONLY, OR COMBINED LICENSES, AMENDMENTS, OR RENEWALS**  
(If more space is needed to complete any of the items, use Pages 3-4 first, and then attach additional sheets, if necessary.)

<b>12. NAME(S) / ADDRESS(ES) OF FOREIGN SUPPLIERS AND/OR OTHER PARTIES TO IMPORT</b>  -----N/A-----	<b>13. NAME(S) / ADDRESS(ES) OF INTERMEDIATE CONSIGNEE(S)</b>  -----N/A-----	<b>14. NAME(S) / ADDRESS(ES) OF ULTIMATE CONSIGNEE(S)</b>  -----N/A-----
<b>12a. NRC EXPORT LICENSE NUMBER(S) (if applicable)</b>  -----N/A-----	<b>13a. LICENSE NUMBER(S) / EXPIRATION DATE(S)</b>  -----N/A-----	<b>14a. LICENSE NUMBER(S) / EXPIRATION DATE(S)</b>  -----N/A-----
	<b>13b. INTERMEDIATE USE(S)</b>  -----N/A-----	<b>14b. INTERMEDIATE USE(S)</b>  -----N/A-----
<b>15. DESCRIPTION OF RADIOACTIVE MATERIALS, SEALED SOURCES, NUCLEAR FACILITIES</b>  -----N/A-----	<b>15a. MAX TOTAL VOLUME/ ELEMENT WGT (KG), OR TOTAL ACTIVITY (TBq)</b>  -----N/A-----	<b>15b. MAX ENRICHMENT OR WGT %</b>  -----N/A-----
		<b>15c. MAX ISOTOPE WGT (KG)</b>  -----N/A-----

16. FOREIGN OBLIGATIONS (BY COUNTRY AND BY PERCENTAGE OF MAXIMUM TOTAL VOLUME)

**PART E. TO BE COMPLETED FOR ALL LICENSES, AMENDMENTS, OR RENEWALS**

<b>17. ADDITIONAL INFORMATION PROVIDED ON PAGE 3 AND/OR ON SEPARATE SHEETS?</b>  <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<b>17a. COPIES OF RECIPIENTS' AUTHORIZATIONS PROVIDED?</b>  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<b>18. CERTIFICATION:</b> I, the applicant's authorized official, hereby certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that all information provided is correct to the best of my knowledge.	
<b>18a. PRINT NAME AND TITLE OF AUTHORIZED OFFICIAL</b>  Philip Gianutsos, CHP Radiation Safety Officer	<b>18b. SIGNATURE - AUTHORIZED OFFICIAL</b>  
	<b>18c. DATE</b>  01/06/2010

JAN 08 2010

NRC FORM 7  
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U.S. NUCLEAR REGULATORY COMMISSION

**APPLICATION FOR NRC EXPORT/IMPORT  
LICENSE, AMENDMENT, OR RENEWAL (Continued)**

LICENSE NUMBER	DOCKET NUMBER	ADAMS ACCESSION NUMBER	<input type="checkbox"/> PUBLIC OR <input type="checkbox"/> NON-PUBLIC
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ADDITIONAL INFORMATION (Reference applicable block numbers from page 1 and/or page 2 for each entry)

For blocks 10, 10a-10c:

Up to 80 8' X 8' X 20' and 20 8' X 8' X 40' empty cargo containers will be shipped to the consignee. The 8' X 8' X 20' cargo containers weigh approximately 5500 kgs (12,000 pounds) and contain empty metal boxes for waste packaging. The 8' X 8' X 40' cargo containers weigh approximately 4000kgs (8750 pounds). Incidental radioactive material is present as contamination on the interior surfaces of the cargo containers and metal boxes. In addition 15 nominal 5,000 gallon tankers will be shipped to the consignee. Incidental radioactive material is present as a heel in the tanker. The contamination is byproduct material, consisting of H-3, Cs-137, Ni-63, Co-60, and Sb-124.

The contamination is predominantly byproduct material, with traces of source and special nuclear material. All radioactive material is in the form of solid metal oxides. See below for quantities of Appendix L materials. Several Appendix P radionuclides will be present, with each shipment << 0.1% of the Category 2 limit (calculation is also presented below)

Cargo Container Estimated Radionuclide Information

Radiological Content Nuclide	20' empty seavan		40' empty seavan	
	MBq	mCi	MBq	mCi
AM-241	9.464E-02	2.558E-03	1.615E-01	4.365E-03
C-14	8.991E+00	2.430E-01	1.534E+01	4.146E-01
CM-243	7.014E-02	1.896E-03	1.197E-01	3.235E-03
CM-244	7.014E-02	1.896E-03	1.197E-01	3.235E-03
CO-57	5.291E-01	1.430E-02	9.029E-01	2.440E-02
CO-60	3.289E+01	8.889E-01	5.612E+01	1.517E+00
CS-134	4.513E+00	1.220E-01	7.700E+00	2.081E-01
CS-137	4.198E+01	1.135E+00	7.163E+01	1.936E+00
FE-55	2.816E+01	7.610E-01	4.805E+01	1.299E+00
H-3	8.221E+01	2.222E+00	1.403E+02	3.792E+00
MN-54	1.429E+00	3.861E-02	2.438E+00	6.589E-02
PU-239	1.702E-02	4.600E-04	2.904E-02	7.849E-04
PU-240	1.702E-02	4.600E-04	2.904E-02	7.849E-04
SR-90	1.739E+01	4.699E-01	2.967E+01	8.018E-01
TH-234	1.294E+01	3.498E-01	2.209E+01	5.969E-01
U-233	8.042E-04	2.174E-05	1.372E-03	3.709E-05
U-234	3.709E-02	1.002E-03	6.328E-02	1.710E-03
U-235	3.562E-03	9.626E-05	6.078E-03	1.643E-04
U-236	1.669E-03	4.511E-05	2.848E-03	7.697E-05
U-238	2.242E-03	6.059E-05	3.826E-03	1.034E-04
ZN-65	1.532E+00	4.142E-02	2.615E+00	7.067E-02
<b>Total</b>	<b>2.329E+02</b>	<b>6.300E+00</b>	<b>3.974E+02</b>	<b>1.075E+01</b>

	TBq	Ci	TBq	Ci
Single Seavan	2.329E-04	6.300E-03	3.974E-04	1.075E-02
80 20' seavans	1.863E-02	5.040E-01		
20 40' seavans			7.948E-03	2.150E-01
Total of 100 seavans	2.658E-02	7.190E-01		

Special Nuclear Material & Source Material	20' seavan		40' seavan		SNM Totals for 100 seavans gms
	SNM (gms)	SM (kgs)	SNM (gms)	SM (kgs)	
PU-239	7.399E-06		1.263E-05		8.445E-04
PU-240	2.026E-06		3.457E-06		2.312E-04
TH-234		1.505E-11		2.568E-11	
U-233	2.234E-06		3.812E-06		2.549E-04
U-234	No	1.612E-07	No	2.751E-07	No
U-235	Enriched Uranium		Enriched Uranium		Enriched Uranium
U-236	6.954E-07		1.187E-06		
U-238	1.868E-04		3.188E-04		
<b>Total</b>	<b>1.166E-05</b>	<b>1.877E-04</b>	<b>1.989E-05</b>	<b>3.203E-04</b>	<b>1.331E-03</b>

kg source material X80	1.501E-02
kg source material X20	6.405E-03
Total kg source material	2.142E-02
U enrichment	2.450E-02

APPENDIX P EVALUATION

nuclide	20' activity, MBq	40' activity, MBq	App P, Cat 2 limit	1 empty 20' seavan	1 empty 40' seavan
			MBq	(fraction of limit)	(fraction of limit)
AM-241	9.464E-02	1.615E-01	6.000E+05	1.577E-07	2.691E-07
CM-244	7.014E-02	1.197E-01	5.000E+05	1.403E-07	2.394E-07
CO-60	3.289E+01	5.612E+01	3.000E+05	1.096E-04	1.871E-04
CS-137	4.198E+01	7.163E+01	1.000E+06	4.198E-05	7.163E-05
SR-90	1.739E+01	2.967E+01	1.000E+07	1.739E-06	2.967E-06
shipment of 2 20' seavans, sum of fractions				3.073E-04	
shipment of 1 40' seavan, sum of fractions				2.622E-04	

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## Tanker Estimated Radionuclide Information

Radiological Content Tanker		
Activity Nuclide	MBq	mCi
CO-60	2.572E-08	6.950E-10
CS-137	7.030E-09	1.900E-10
H-3	4.403E+02	1.190E+01
Ni-63	5.809E-11	1.570E-12
Sb-124	7.030E-09	1.900E-10
Total	4.403E+02	1.190E+01
	TBq	Ci
Single Tanker	4.403E-04	1.190E-02
15 Tankers	6.605E-03	1.785E-01

APPENDIX P EVALUATION			
nuclide	Tanker	App P, Cat 2 limit MBq	(fraction of limit)
CO-60	2.572E-08	3.000E+05	8.572E-14
CS-137	7.030E-09	1.000E+06	7.030E-15
1 Tanker Sum of Fractions			9.275E-14

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