



February 20, 2009

Mr. Stephen Dembek, Branch Chief  
Export Control and International Organizations  
Office of International Programs  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852

Subject: Export and Import Licenses XW002, XW008, IW004 and IW012 Letter Dated  
January 9, 2009

Dear Mr. Dembek:

I have reviewed your request for information in a letter dated January 9, 2009 (copy attached) and I am writing on behalf of Diversified Scientific Services, Inc. (DSSI) in response to your requests. Each of your requests is repeated below, verbatim; followed by DSSI's response.

However, at the outset it should be noted that DSSI does not directly dispose of foreign generated waste in the United States. DSSI is a one-of-a-kind facility that operates under a State of Tennessee radioactive materials license, two RCRA (hazardous and mixed waste management) Part B Permits administered by Tennessee, and a TSCA Authorization for commercial PCB waste disposal issued by U.S. EPA Region 4. DSSI performs fuels blending of radioactive and mixed waste for the purpose of electricity generation (energy recovery) in a direct-fired boiler subject to boiler and industrial furnace operating requirements set forth in 40 CFR 266. Secondary waste (baghouse ash) generated by the processing of imported waste in the facility boiler is attributed to DSSI as determined by the State of Tennessee and DSSI's radioactive material license.

For example, Section 10 Authorized Use of Radioactive Material License R-73014-H14 (License) provides that DSSI is authorized for, among other things:

- *For the burning as radioactive liquids with suspended or dissolved solids; and*
- *Storage and processing of the resultant site-generated waste. (Emphasis added)*

Moreover, because the State of Tennessee designates DSSI as the generator of such waste, Section 28 of the License limits the time DSSI may store the waste on site. Section 28 provides, in part:

*No radioactive material...or radioactive waste may be possessed under this license, from its time of receipt or generation until its disposal or transfer from the facility, for a period of time greater than three hundred and sixty-five (365) days... (Edited for clarity; emphasis added)*

Because the imported radioactive waste is commingled with domestic material and becomes DSSI-generated waste as a result of processing, DSSI does not routinely track or calculate the imported waste component volume of DSSI's waste. Nevertheless, a response to each of your requests is provided below and in the attached tables.

Request

- 1) *Total volumes and activity levels of Class A radioactive mixed waste imported under IW004 and IW012 (respectively) to the Tennessee facility for processing.*

Response

The total volumes and activity levels of Class A radioactive mixed waste imported under IW004 is 22,084 kgs and 33.15 Ci, respectively. See attached Table 1.

The total volumes and activity levels of Class A radioactive mixed waste imported under IW012 is 194,977 kgs and 4,765 Ci, respectively. See attached Table 2.

Request

- 2) *Amounts processed (incinerated).*

Response

DSSI assumes you are requesting the total volume of Class A radioactive mixed waste thermally treated in the facility's boiler, which was imported under each of the above cited import licenses. The total volume of Class A radioactive mixed waste imported under IW004 and subsequently thermally treated in the facility's boiler is 15,162 kgs. See attached Table 3.

The total volume of Class A radioactive mixed waste imported under IW012 and subsequently thermally treated in the facility's boiler is 156,174 kgs. See attached Table 4.

Request

- 3) *Total volumes and activity levels of radioactive waste exported (returned) under the respective licenses XW002 and XW008 after being processed or because it did not conform to specification.*

Response

The total volume and activity levels of radioactive waste exported (returned) under license XW002 after being processed or because it did not conform to specification is 1,891 kgs and 147.40 Ci respectively. See attached Table 5.

No radioactive waste was exported (returned) under license XW008 after being processed or because it did not conform to specification.

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Request

- 4) *Types and quantities of radioactive waste generated from processing the imported waste, disposed of in the United States.*

Response

DSSI assumes you are requesting additional information about the nature and amount of the waste DSSI generates during the thermal treatment of radioactive waste in the facility's boiler that is not otherwise provided in our response to the previous three requests for information.

The type of waste generated by the thermal treatment of radioactive waste in the facility's boiler is baghouse ash, which is subsequently stabilized for disposal.

As previously noted, DSSI does not routinely track or calculate the imported radioactive waste component volume of DSSI-generated waste because the imported waste is commingled with domestic material as a result of processing and becomes DSSI's waste. However, DSSI estimates that based on the amount of radioactive material imported and processed 2,275 kgs was disposed of as DSSI-generated waste.\*

*\*This estimate and the rest of the information provided herein is derived from DSSI's waste tracking system and the review of associated waste shipping and receipt documentation for the last five years consistent with 10 CFR 110.53. These records are maintained on-site as part of the facility operating record and are available for inspection in conformance with applicable recordkeeping requirements.*

If you have any questions about this response, please do not hesitate to call me at 865-813-1305.

Respectfully submitted,



Paul M. Hickman  
Regional Sales Manager  
Perma-Fix Environmental Services, Inc.

**IMPORT LICENSE IW004**

**ONTARIO POWER GENERATION, INC.**

**TABLE 1**

<b>DSSI SHIPMENT NUMBER</b>	<b>DATE RECEIVED</b>	<b>NUMBER OF CONTAINERS</b>	<b>RADIOACTIVE WASTE MANIFEST NUMBER</b>	<b>NET WASTE WEIGHT (kg)</b>	<b>ACTIVITY H-3 and C-14 (MBq)</b>	<b>ACTIVITY H-3 and C-14 (Ci)</b>	<b>Mixed Fission Products (Mbg)</b>	<b>Mixed Fission Products (Ci)</b>
DSSI-04-251	12/13/2004	18	04251	3,592.45	1.3628E+05	3.68	1.4304E+02	0.00387
DSSI-06-225	12/15/2006	66	OPG-Pickering dec06	13,371.91	1.3623E+05	3.68	1.2085E+03	0.03266
DSSI-07-226	12/21/2007	16	OPG-DSSI-07	3,193.29	8.5581E+05	23.13	2.2034E+00	0.00006
DSSI-08-191	12/19/2008	11	Pickering to DSSI	1,925.95	9.6822E+04	2.62	3.5396E+01	0.00096
<b>TOTALS</b>				<b>22,083.60</b>		<b>33.11</b>		<b>0.0375</b>

# IMPORT LICENSE IW012

## ATOMIC ENERGY OF CANADA LIMITED (AECL)

TABLE 2

DSSI SHIPMENT NUMBER	DATE RECEIVED	NUMBER OF CONTAINERS	RADIOACTIVE WASTE MANIFEST NUMBER	NET WASTE WEIGHT (kg)	ACTIVITY ALL NUCLIDES (MBq)	ACTIVITY ALL NUCLIDES (Ci)
DSSI-05-216	12/2/2005	55	Truck # 1 AECL	10,976.94	1.52E+05	4.10
DSSI-05-217	12/2/2005	57	DSSI-07-217	13,961.57	1.05E+06	28.30
DSSI-06-020	2/27/2006	37	DSSI-06-truck1134	9,062.78	4.13E+06	111.59
DSSI-06-021	2/27/2006	38	DSSI-06-truck#1147	8,381.93	1.14E+06	30.87
DSSI-06-199	12/14/2006	65	Truck 1	14,290.43	1.59E+06	43.02
DSSI-06-200	12/14/2006	61	Truck 2	13,110.18	4.65E+06	125.56
DSSI-07-005	1/26/2007	60	DSSI-07-005	12,604.88	3.00E+06	81.16
DSSI-07-006	1/27/2007	56	DSSI-07-006	12,540.47	4.89E+06	132.04
DSSI-07-044	3/22/2007	22	Chalk River Mar 07	4,837.56	2.91E+07	786.46
DSSI-07-160	9/4/2007	44	DSSI-07-160	4,520.95	4.00E+07	1,081.46
DSSI-07-204	11/16/2007	70	AECL Truck # 1	15,716.97	6.70E+05	18.11
DSSI-07-205	11/16/2007	70	AECL Truck # 2	15,716.97	9.89E+04	2.67
DSSI-07-209	11/29/2007	70	AECL Truck # 3	15,716.97	2.38E+05	6.43
DSSI-07-210	11/29/2007	71	AECL Truck # 4	15,941.50	3.93E+05	10.62
DSSI-07-211	11/30/2007	70	AECL Truck # 5	15,716.97	7.32E+04	1.98
DSSI-07-212	11/30/2007	34	AECL Truck # 6	7,432.11	7.56E+03	0.20
DSSI-08-025	2/29/2008	11	AECL-DSSI-T01-08	2,245.28	8.51E+07	2,300.00
DSSI-08-045	3/31/2008	9	000487233FLE	2,202.19	2.27E+04	0.61

TOTALS 194,976.69 1.7631E+08 4,765.19

**IMPORT LICENSE IW004**

**ONTARIO POWER GENERATION, INC**

**PROCESSED (INCINERATED)**

**TABLE 3**

<b>DSSI SHIPMENT NUMBER</b>	<b>DATE RECEIVED</b>	<b>NUMBER OF CONTAINERS</b>	<b>RADIOACTIVE WASTE MANIFEST NUMBER</b>	<b>NET WASTE WEIGHT (kg)</b>	<b>WEIGHT BURNED (kg)</b>
DSSI-04-251	12/13/2004	18	04251	3,592.45	3,005.96
DSSI-06-225	12/15/2006	66	OPG-Pickering dec06	13,371.91	10,592.74
DSSI-07-226	12/21/2007	16	OPG-DSSI-07	3,193.29	2,902.99
DSSI-08-191	12/19/2008	11	Pickering to DSSI	1,925.95	1,666.50
				<b>TOTAL</b>	<b>15,162.23</b>

**IMPORT LICENSE IW012****ATOMIC ENERGY OF CANADA LIMITED (AECL)****PROCESSED (INCINERATED)****TABLE 4**

<b>DSSI SHIPMENT NUMBER</b>	<b>DATE RECEIVED</b>	<b>NUMBER OF CONTAINERS</b>	<b>RADIOACTIVE WASTE MANIFEST NUMBER</b>	<b>NET WASTE WEIGHT (kg)</b>	<b>WEIGHT BURNED (kg)</b>
DSSI-05-216	12/2/2005	55	Truck # 1 AECL	10,976.94	10,220.34
DSSI-05-217	12/2/2005	57	DSSI-07-217	13,961.57	11,123.45
DSSI-06-020	2/27/2006	37	DSSI-06-truck1134	9,062.78	6,510.87
DSSI-06-021	2/27/2006	38	DSSI-06-truck#1147	8,381.93	6,242.79
DSSI-06-199	12/14/2006	65	Truck 1	14,290.43	11,342.08
DSSI-06-200	12/14/2006	61	Truck 2	13,110.18	10,343.27
DSSI-07-005	1/26/2007	60	DSSI-07-005	12,604.88	9,896.93
DSSI-07-006	1/27/2007	56	DSSI-07-006	12,540.47	10,000.35
DSSI-07-044	3/22/2007	22	Chalk River Mar 07	4,837.56	3,839.66
DSSI-07-160	9/4/2007	44	DSSI-07-160	4,520.95	3,137.50
DSSI-07-204	11/16/2007	70	AECL Truck # 1	15,716.97	12,700.59
DSSI-07-205	11/16/2007	70	AECL Truck # 2	15,716.97	12,700.59
DSSI-07-209	11/29/2007	70	AECL Truck # 3	15,716.97	12,700.59
DSSI-07-210	11/29/2007	71	AECL Truck # 4	15,941.50	12,882.02
DSSI-07-211	11/30/2007	70	AECL Truck # 5	15,716.97	12,700.59
DSSI-07-212	11/30/2007	34	AECL Truck # 6	7,432.11	5,989.69
DSSI-08-025	2/29/2008	11	AECL-DSSI-T01-08	2,245.28	1,925.95
DSSI-08-045	3/31/2008	9	000487233FLE	2,202.19	1,916.88

**TOTAL 156,174.13**

**EXPORT LICENSE XW002****ONTARIO POWER GENERATION, INC.****TABLE 5**

<b>DSSI OUTGOING SHIPMENT NUMBER</b>	<b>DATE SHIPPED</b>	<b>NUMBER OF CONTAINERS</b>	<b>RADIOACTIVE WASTE MANIFEST NUMBER</b>	<b>NET WASTE WEIGHT (kg)</b>	<b>ACTIVITY H-3 and C-14 (MBq)</b>	<b>ACTIVITY H-3 and C-14 (Ci)</b>	<b>Mixed Fission Products (Mbq)</b>	<b>Mixed Fission Products (Ci)</b>
DSSI-04-059	6/18/2004	8	04059	485.00	1.59E+01	0.0004	2.27E+01	0.0006
DSSI-05-186	12/16/2005	1	DSSI-05-186	26.31	7.90E+00	0.0002	1.40E+02	0.0038
DSSI-08-100	2/15/2008	4	08100	513.01	5.45E+06	147.36	6.70E+02	0.0181
DSSI-08-016	12/15/2008	6	DSSI-08-016	866.82	5.05E+02	0.0136	6.00E-01	0.0000

**TOTALS 1,891.14****147.38****0.02**