



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.

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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

| DSSI SHIPMENT NUMBER | DATE RECEIVED | NUMBER OF CONTAINERS | RADIOACTIVE WASTE MANIFEST NUMBER | NET WASTE WEIGHT (kg) | ACTIVITY H-3 and C-14 (MBq) | ACTIVITY H-3 and C-14 (Ci) | Mixed Fission Products (Mbg) | Mixed Fission Products (Ci) |
|-----------------------------|----------------------|-----------------------------|--|------------------------------|------------------------------------|-----------------------------------|-------------------------------------|------------------------------------|
| 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 |
| TOTALS | | | | 22,083.60 | | 33.11 | | 0.0375 |

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

| DSSI SHIPMENT NUMBER | DATE RECEIVED | NUMBER OF CONTAINERS | RADIOACTIVE WASTE MANIFEST NUMBER | NET WASTE WEIGHT (kg) | WEIGHT BURNED (kg) |
|-----------------------------|----------------------|-----------------------------|--|------------------------------|---------------------------|
| 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 |
| | | | | TOTAL | 15,162.23 |

IMPORT LICENSE IW012

ATOMIC ENERGY OF CANADA LIMITED (AECL)

PROCESSED (INCINERATED)

TABLE 4

| DSSI SHIPMENT NUMBER | DATE RECEIVED | NUMBER OF CONTAINERS | RADIOACTIVE WASTE MANIFEST NUMBER | NET WASTE WEIGHT (kg) | WEIGHT BURNED (kg) |
|-----------------------------|----------------------|-----------------------------|--|------------------------------|---------------------------|
| 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

| DSSI OUTGOING SHIPMENT NUMBER | DATE SHIPPED | NUMBER OF CONTAINERS | RADIOACTIVE WASTE MANIFEST NUMBER | NET WASTE WEIGHT (kg) | ACTIVITY H-3 and C-14 (MBq) | ACTIVITY H-3 and C-14 (Ci) | Mixed Fission Products (Mbq) | Mixed Fission Products (Ci) |
|-------------------------------|--------------|----------------------|-----------------------------------|-----------------------|-----------------------------|----------------------------|------------------------------|-----------------------------|
| 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