

ENERGYSOLUTIONS

CD08-0262

August 7, 2008

Mr. Stephen Dembek
US Nuclear Regulatory Commission
Office of International Programs
One White Flint North
Mail Stop 4 E21
Washington, DC20555

Dear Mr. Dembek:

Per your request during our telecon on Tuesday, July 29, 2008, we were providing clarification concerning domestic disposal of wastes generated during the processing of wastes imported under IW017 and the recycling of resource materials conservatively imported under the same Specific License.

Materials Category	Processed Pounds (Kgs)	Estimated Residual Radioactive Waste Pounds (Kgs)
Metals recycled	12,900 (5,860)	775 (352)
Materials incinerated	610,000 (278,000)	7,000 (3200)
Materials yet to be processed	88,100 (40,000)	—NA—

The tabulated data clearly show that residual waste from current processing of materials imported from Canada is nominally 1.2% of the imported mass. Please note that variability in incineration factors limits us to estimates of resultant residual wastes. As previously noted, this is the technical basis for our waste attribution model.

We regret that any informal communications concerning other projects may have been misinterpreted as representative of the current controls in place for IW017. The domestic disposal of residual wastes was clearly specified in the application for the referenced license (refer to page 7 from the April 10, 2006 application), and in supplemental information concerning attribution of wastes (refer to Attachment 1). There were no undisclosed waste management intentions or omissions. We believe these to be common waste management practices, conducted routinely and with the full knowledge and approval of associated Low-Level Waste Compacts. For example, IW022 was issued to a Northwest Compact processor with nearly identical definition and treatment of residual wastes (see Attachment 2). In addition, identical considerations have been applied to

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domestic nuclear laundry services (see Attachment 3, excerpts from application for IW016, dated February 3, 2006).

We hope this clarifies issues associated with processing of imported radioactive materials. Please contact me if additional information is needed.

Sincerely,



Tye Rogers
Sr. Vice President, Regulatory Affairs

Attachments (3)

Cc: J. Kennedy, USNRC
J. Graves, TNDRH

ATTACHMENT 1

Excerpts from EnergySolutions application for import license
(including supplemental information submitted to OIP)
License issued as IW017

- d) The remaining material, i.e., volumetrically contaminated material and material with surficial contamination that cannot be decontaminated for unrestricted release, may be bulk assayed for conditional release to a landfill in accordance with Duratek's Tennessee license conditions. Materials that do not meet conditional release criteria may be incinerated for the energy value, used for cooling purposes, or processed for recycling through Duratek's metal melter and fabricated into products for beneficial reuse.
- e) Material that is not processed as provided under paragraphs b, c, and d above will be treated as waste.

Waste

Any imported material that is not released or processed in accordance with Tennessee license conditions will be returned to Canada under the proposed export license which is associated with this application. This includes burnable and non-burnable material, ferrous and non-ferrous metals, and liquids. Appropriate processing for volume reduction, e.g., incineration, evaporation, and compaction, may be performed prior to return.

Residual radioactive material from processing the imported material such as floor sweepings, booties, slag, ash, decontaminated solution and abrasives, etc which is attributable to Duratek under its Tennessee license, as amended from time to time, will be disposed of in accordance with Duratek's procedures and applicable license conditions and permits. In accordance with Duratek's Tennessee license, waste that is considered to be attributable to Duratek under the attribution model approved by Tennessee is also considered by Tennessee to be waste generated by Duratek and not its suppliers. Such waste is normally disposed of at either Barnwell or Envirocare. Any waste that is not considered to be attributable to Duratek will be returned for disposal under the proposed export license which is associated with this application. Thus, while Duratek is unable to ascertain at this time the expected volume of waste associated with the import given the nature of Duratek's business plan, there should not be significant volumes of waste resulting from the imported material that will be disposed of in the United States. As noted under section 5, above, Duratek will not import material until Canada has issued an import license to accept the return of any waste associated with the material imported to the US under this proposed license. This is also consistent with Duratek's Tennessee license condition that requires in contracts with international customers the following language:

Customer understands and acknowledges that Duratek must, in accordance with its Tennessee Radioactive Materials licensees, retain the right to return Radioactive Waste (processed or unprocessed) to the generator. Therefore, Customer hereby represents, warrants and promises that it has the legal right and ability to accept, and will accept the return of Radioactive Waste (processed or unprocessed) to the generator facility. In addition, Customer represents, warrants, and promises that it has written assurance from the appropriate Radiological Control competent authority for such return of radioactive waste. Customer agrees to provide Duratek, upon request, written evidence of its ability to accept any returned Customer radioactive waste in accordance with this Article.



Ms. Janice Owens
US Nuclear Regulatory Commission
Mail Stop O4E21
Washington, DC 20555

Dear Ms. Owens:

Thank you for taking the time to discuss the status of our applications for import and export of waste from Canada. In response to our telephone call on Monday, August 14, 2006, I am sending you excerpts from our Tennessee radioactive materials license applications addressing waste attribution requirements and possession limits applicable to our Bear Creek facility.

The following sections describe the models under which residual waste is generated and attributed to Duratek (Energy Solutions). In all other cases, low-level radioactive waste is shipped to disposal with the original customer manifested as the generator. Solids formed during drying of contaminated liquids and sludges, compacted waste, and dewatered resins are examples of wastes that are attributed to the original generator.

From the Metal Melt license application:

Waste attribution

Secondary waste (including, but not exclusive, floor sweepings, baghouse dust, HEPA filters, mop water, slag and anti-contamination clothing) that cannot be easily tracked back to a specific customer becomes Duratek generated waste. Because there is not a "date received from a customer" to associate with this waste, the date the waste is generated (defined below) becomes the date associated with the waste and such secondary waste is considered newly generated waste for tracking and aging purposes. A specific example at the MMF is slag from the melter operations, which is made up of the slag resulting from the melting of pieces of steel from many generators. Note that in some limited instances (bulk processing or dedicated processing of a single customer's waste) some of the very same wastes can be easily tracked and in that case remain the customer's waste with associated "date received" being the limiting aging date. For example, dedicated operation of the melter to one generator's waste could lead to all the melter waste streams being attributed to the generator (even the HEPA filters, if clean at the start). Where practical for large campaigns secondary waste will be attributed to the waste generator. In the case of Duratek generated secondary waste the date of generation is the date the container being used for collection of the waste is considered full and is moved from the collection point to a queue for processing or disposal. For HEPA filters and bag house bags it would be the day they are removed from service. For reusable equipment deemed to be no longer useful it would be the day that the determination is made it is no longer reusable. It should be noted that for long campaigns of one generator's waste while the waste may all be attributable to the original generator the date of generation may have to be determined as noted above, otherwise HEPA filters and other long term contaminated items would have to be removed from service early to preclude their becoming aged waste.

From the Dry Active and Liquid Waste license application:

Waste Attribution

Secondary waste (including, but not exclusive, floor sweepings, baghouse dust, HEPA filters, fly ash, mop water, scrubber salts, slag and anti-contamination clothing) that cannot be easily tracked back to a specific customer becomes Duratek generated waste. Because there is not a "date received from a customer" to associate with this

waste, the date the waste is generated (defined below) becomes the date associated with the waste and such secondary waste is considered newly generated waste for tracking and aging purposes. A specific example at Bear Creek is liquid wastes from the ultracompactor. These liquids are generated by the press operations and captured from numerous generators. Note that in some limited instances (bulk processing or dedicated processing of a single customer's waste) some of the very same wastes can be easily tracked and in that case remain the customer's waste with associated "date received" being the limiting aging date. For example, dedicated operation of the incinerator to one generator's waste could lead to all the incinerator waste streams being attributed to the generator (even the HEPA filters, if clean at the start). Where practical for large campaigns secondary waste will be attributed to the waste generator. In the case of Duratek generated secondary waste the date of generation is the date the container being used for collection of the waste is considered full and is moved from the collection point to a queue for processing or disposal. For HEPA filters and bag house bags it would be the day they are removed from service. For reusable equipment deemed to be no longer useful it would be the day that the determination is made it is no longer reusable. It should be noted that for long campaigns of one generator's waste while the waste may all be attributable to the original generator the date of generation may have to be determined as noted above otherwise HEPA filters and other long term contaminated items would have to be removed from service early to preclude their becoming aged waste.

I will also take this opportunity to confirm that the total activity requested in section 6 of our application letter for the license to import Canadian wastes is the total waste activity anticipated over the proposed 5 year license term. Activity in exported waste will be somewhat less than the imported activity. Attached are the pages from our Metal Melt license specifying the possession limits for the Bear Creek site (including the Dry Active, and Liquid Waste facility license). Radioactive materials possessed at any given time will be managed within these limits.

Please contact me if you have questions or require further information.

Respectfully

Philip Gianutsos, CHP
Radiation Safety Officer
Bear Creek Operations

cc: B Ferkins

attachments

R-73016-A15 sections 6, 8, and 9
amendment #76 to same

ATTACHMENT 2

Excerpts from Pacific EcoSolutions, Inc. application for import license, 5/16/2007

License issued as IW022

Accession #ML071840126

IW022
11005700

8) Ultimate Disposition of the Material (10 CFR 110.32(f)(5) and (6))

The imported material will be possessed and used in the United States in accordance with Perma-Fix Northwest's Washington Agreement State Licenses Number WFN-10393-1 as amended and renewed from time to time. Perma-Fix Northwest will only import radioactive material if its Washington license is current or in timely renewal status.

Material that is not volumetrically contaminated and meets the procedures approved by the State of Washington for unrestricted release which currently are consistent with Regulatory Guide 1.86 may be released for unrestricted release or otherwise used by Perma-Fix Northwest in its operations. Volumetrically contaminated material under the Washington license conditions may be:

- 1) recycled after decontamination;
- 2) use for temperature control in the thermal processes in the case of contaminated liquids;
- 3) compacted, or
- 4) processed through thermal treatment.

Unrestricted Release and Conditional Release of material

Due to the relatively low activity of the imported material, it is anticipated that a portion of the material is either not contaminated or is only slightly contaminated such that the materials can be successfully decontaminated to meet the unrestricted release standards of Regulatory Guide 1.86. Any material that [1) does not meet the conditions for conditional release to a landfill, or 2)] cannot meet the unrestricted release standard after decontamination, will be

- 1) subjected to thermal treatment or
- 2) compacted or otherwise processed as waste.

Specifically, the material will be processed as follows:

- a) Imported material will be removed from shipping containers
- b) Material will be sorted and surveyed. Material that is not contaminated (i.e., meeting the conditions for unrestricted release) may be released to a clean recycler.
- c) Surficially contaminated material if meeting the conditions for unrestricted release after decontamination may be released to a clean recycler.
- d) The remaining material, i.e., volumetrically contaminated material and material with surficial contamination that cannot be decontaminated for unrestricted release, may be:
 - i) in the case of dry activated material be subject to sizing and supercompaction and thereafter be treated as waste;
 - ii) in the case of liquids, used for temperature control of thermal processes, or
 - iii) be subject to thermal treatment.
- e) Material that is not processed as provided under paragraphs b, c, and d above will be treated as waste.

Waste

Any imported material that is not released or processed in accordance with Washington license conditions will be returned to Canada under the proposed export license which is associated with this application. Appropriate processing for volume reduction, e.g., compaction and/or thermal treatment may be performed prior to return.

Residual radioactive material from processing the imported material such as floor sweepings, booties, slag, ash, decontaminated solution and abrasives that can be

FW022
11005700

directly assigned to a Canadian generator will be combined with other waste from that generator. Residual material which cannot be directly assigned to a generator would be assigned to Perma-Fix Northwest under its procedures approved by the State of Washington and would be disposed of in accordance with Perma-Fix Northwest's procedures and applicable license conditions as approved by the State of Washington. In accordance with Perma-Fix Northwest's approved procedures, waste that is not identifiable to a generator or is commingled waste is attributable to Perma-Fix Northwest and is also considered by Washington to be waste generated by Perma-Fix Northwest and not its suppliers. Such waste is normally disposed of at US Ecology, Richland, Washington. Any imported Canadian waste that is not considered to be attributable to Perma-Fix Northwest will be returned for disposal under the proposed export license which is associated with this application. While Perma-Fix Northwest is unable to ascertain at this time the expected volume of waste associated with the import given the nature of Perma-Fix Northwest's business plan, there should not be significant volumes of waste resulting from the imported material that will be disposed of in the United States.

Perma-Fix Northwest will not import material until Canada has issued an import license to accept the return of any waste associated with the material imported to the US under this proposed license. This is also consistent with Perma-Fix Northwest's Washington license condition that requires in contracts the ability to return radioactive material processed or unprocessed to the supplier. Language similar to the following will be used:

Customer understands and acknowledges that Perma-Fix Northwest must, in accordance with its Washington Radioactive Materials licensees, retain the right to return Radioactive Waste (processed or unprocessed) to the generator. Therefore, Customer hereby represents, warrants and promises that it has the legal right and ability to accept, and will accept the return of Radioactive Waste (processed or unprocessed) to the generator facility. In addition, Customer represents, warrants, and promises that it has written assurance from the appropriate Radiological Control competent authority for such return of radioactive waste. Customer agrees to provide Perma-Fix Northwest, upon request, written evidence of its ability to accept any returned Customer radioactive waste in accordance with this Article.

This approach for waste has been discussed with and accepted by the Washington Department of Health and Environment, Division of Radiological Health. Processing performed in accordance with Perma-Fix Northwest's radioactive materials licenses requires no additional authorization beyond the NRC import and export licenses. This was again discussed on May 10, 2007, in discussion with the Licensing Section of the Washington Division of Radiological Health.

9) Justification of License (10 CFR 110.32(f)(7))

The dates for shipment will be based on the contract arrangements for individual shipments. The material imported under this license will assist in maintaining the US competitive advantage in decommissioning. It is consistent with international conventions entered into by the United States.

ATTACHMENT 3

Excerpts from Eastern Technologies, Inc, application for import license, 2/3/2006
License issued at IW016
Accession #ML060460013

IN016
11005602

- (3) For nuclear equipment, total dollar value.

N/A

- (4) For nuclear reactors, the name of the facility and its design power level.

N/A

- (5) For proposed exports or imports of radioactive waste, and for proposed exports of incidental radioactive material -- the volume, classification (as defined in §61.55 of this chapter), physical and chemical characteristics, route of transit of shipment, and ultimate disposition (including forms of management) of the waste.

A typical shipment of used protective clothing and related products shipped in a 40' sealand will comprise up to 2080 ft³ of material with a mass ranging from about 5,000 lbs to 12,000 lbs depending on the amount loaded and the efficiency of packing the sealand container. If similar material were being transported for land disposal, it would be classified as Class A as defined in 10CFR Part 61, Paragraph 61.55. The physical and chemical characteristics of the material are the same as described in (f)(1), above.

Shipments may be via highway or water with the exact routing to be established prior to each shipment.

The used protective clothing and related items will be received at the ETI facility located in Ashford, Alabama under the radioactive materials license issued to ETI by the State of Alabama. This License authorizes ETI to collect, launder and decontaminate launderable items and to collect and treat polyvinyl alcohol (PVA) based items and manage associated decontamination wastes. Residual waste associated from the decontamination processes become ETI's secondary waste and is sent by ETI to a third party, licensed waste processor and are ultimately disposed of at the Envirocare of Utah radioactive waste disposal site. This secondary waste includes decontamination process filters, lint from the laundry process, and residual components from dissolvable products.

- (6) For proposed imports of radioactive waste -- the industrial or other process responsible for generation of the waste, and the status of

LW016
11005602

the arrangements for disposition, e.g., any agreement by a low-level waste compact or State to accept the material for management purposes or disposal.

The proposed imports originate at a nuclear power generation facility and are generated as a result of plant operation, maintenance and refueling activities. The imports are comprised of used protective clothing and related decontamination supplies.

As stated above, ETI will decontaminate the material and the residual materials resulting from the decontamination processes are considered secondary waste and are shipped by ETI for final processing and disposal. This secondary waste is ultimately disposed of at the Envirocare of Utah radioactive waste disposal site.

It should be noted that ETI's existing U.S. customers do not manifest and track similar material shipped to ETI as radioactive waste since our processes are licensed as "decontamination processes." Appendix G to 10 CFR Part 20 states that "Decontamination Facility" means a facility licensed under a Commission or Agreement State license whose primary purpose is decontamination of equipment or materials to accomplish recycle, reuse, or other waste management objectives, and for purposes of this part is not considered to be a consignee for LLW shipments. The proposed material to be imported from Mexico will be received and dispositioned in the same fashion as material from our current customers.

- (7) Description of end use by all consignees in sufficient detail to permit accurate evaluation of the justification for the proposed export or import, including the need for shipment by the dates specified.

ETI will be the consignee for this material and will receive the material for decontamination. Launderable materials will be decontaminated using a conventional radiological laundering process. Laundered material will be returned to the Laguna Verde Nuclear Power Plant for reuse at the plant. PVA products will be treated to dissolve the PVA material. The dissolved PVA is subsequently decontaminated and