



Duratek™

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April 10, 2006

Ms. Margaret Doane
Deputy Director
Office of International Programs
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

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Subject: Applications for 1) Specific License to Import Radioactive Material
2) Specific License to Export Radioactive Material

Dear Ms. Doane:

Duratek requests a specific license to import potentially radioactively contaminated material from Canada to Duratek's facility in Oak Ridge, Tennessee for processing under Duratek's Tennessee licenses. Duratek also requests a specific license to authorize the export of radioactive waste generated from this processing to the extent necessary back to Canada.

This license is a generic license to allow the importation of up to 6000 tons of radioactively contaminated material including metals, dry activity material such as wood, paper, and plastic, and liquids such as aqueous and organic based fluids. The sources of this material are not fully known as of the date of this application but will be limited to Canadian facilities authorized by Canada to use and possess radioactive material such as reactors, fuel cycle facilities, and material licensees or facilities equivalent to US Superfund sites. It is expected that the material to be imported would be generated during various activities such as remediation, decontamination, decommissioning, maintenance, equipment upgrades, and routine operational activities. Some of the material to be imported will be free from contamination, some may only be superficially contaminated, and some may be volumetrically contaminated.

The purpose of the import license is to import potentially contaminated material for beneficial reuse by 1) recycling metals for reuse as much of the metal as possible; 2) incinerating liquids and dry activity material to generate energy (i.e., steam) to use in Duratek's operations; and 3) using liquids for cooling purposes in Duratek's operations. Some decontamination work maybe involved. The purpose of the export license is to allow waste that is attributable to Canadian sources under this import license to be exported back to Canada.

**Applications for -- 1) Specific License to Import Radioactive Material
2) Specific License to Export Radioactive Material**

The applications are attached in Attachments 1, 2, and 3. We assume NRC will appropriately delete possession limit information in the interest of materials security prior to making these documents publicly available. We are enclosing a check in the amount of \$15,000 to address the fees for two applications specified in 10 CFR 170.31, Category 15 B., assuming Executive Branch, but not Commission review, is required for each application.

If you have any questions or need additional information, please do not hesitate to call me at 865-220-1478.

Respectfully submitted,



Philip Gianutsos, CHP
Radiation Safety Officer
Duratek Services, Inc.

Attachments:

- 1) Import Application
- 2) Export Application (Form 7)
- 3) Addendum to Export Application

ATTACHMENT 1

PART 110 IMPORT APPLICATION

It is Duratek's intention to import contaminated materials for purposes of recycling the non-radioactive constituents and utilization of the physical properties through energy recovery via our incinerators. Although the argument can be made that a specific license is not necessary since the imported material might be classified as "incidental radioactive material" as that term is used in 10 CFR Part 110, Duratek recognizes that there is a potential that some decontamination activities may be associated with the imported material as part of the recycling and resource recovery process (explained in section 8, below). In addition, there are unanswered questions concerning the application of the use of the incidental radioactive material concept to contaminated material where a portion of the non-radioactive component will not be recycled or recovered due to the nature of Duratek's processing operations. Consequently, to avoid delay in resolving these matters, Duratek is taking a conservative position and submitting this application for a specific import license assuming that NRC may consider some of the contaminated material that is associated with the import to be waste.

1) Name and Address of Applicant (10 CFR 110.32(a))

Duratek Services, Inc.
Bear Creek Operations
1560 Bear Creek Road
Oak Ridge, TN 37831-2530
Contact: Philip Gianutsos
Phone Number 865-220-1478.
E-mail pgianutsos@duratekinc.com

2) Name and Address of Supplier of the Material (10 CFR 110.32 (b))

There will be multiple Canadian sources for the suppliers under this proposed US import license. Each will be authorized by Canada to possess and use radioactive material. The Canadian sources are not fully known at this time. The source for our initial work is:

Contact: Tim Ryder
Monserco Limited
190 Wilkinson Road, Unit #2
Brampton, Ontario
L6T 9W3
Phone: 905 450-3507 ext 318

Business arrangements for other suppliers have either not been initiated or completed. Duratek will supply this information in the form of a license amendment once such arrangements have been completed and, at least, 60 days in advance of any import. Consistent with the concept for a minor license amendment, imports under this license for future suppliers will be enveloped by the provisions in this application. Consequently, it is expected that future amendments will only need to address changes to this section of the application.

3) County of Origin (10 CFR 110.32(c))

Canada

4) Ultimate Consignee (10 CFR 110.32 (d))

Duratek Services, Inc
Bear Creek Operations
1560 Bear Creek Road
Oak Ridge, TN 37831-2530
Contact: Philip Gianutsos
Phone Number 865-220-1478.
E-mail pgianutsos@duratekinc.com

5) Dates of Proposed First and Last Shipment (10 CFR 110.32(e))

Shipments expected between 2006 and 2011.

Shipments of material will not be imported under this proposed US import license until Canada has issued an import license to allow waste associated with the particular import to be returned back to Canada. It is expected that there will be multiple import licenses issued by Canada during the duration of this proposed US import license. Duratek does not object to a license condition that limits each import under this license to materials that Canada has issued an import license for the return of the associated radioactive component.

6) Description of the Material (10 CFR 110.32(f)(1 and 5))

The material to be imported consists of up to 6000 tons of radioactively contaminated material including both metals and dry activity material such as wood, paper, and plastic. The material to be imported consists of up to approximately 3500 tons of metal, 2000 tons of dry activity material, and 500 tons of liquids with the following approximate quantities:

<u>Material</u>	<u>Weight Pounds/ Kilograms</u>
<u>Metals</u>	
Ferrous Metal	5,000,000/ 2,300,000
Non-Ferrous	2,000,000/ 900,000
<u>Dry Activity Material</u>	
Burnable	3,000,000/ 1,350,000
Non-burnable	1,000,000/ 450,000
<u>Liquids</u> (aqueous and organic based)	1,000,000/ 450,000

The radionuclides in the contamination over the duration of the proposed license will not exceed the following limits which are consistent with the possession limits of Duratek's Tennessee licenses (R-73008 and R-73016) which authorize the following amounts:

<u>Radionuclides</u>	<u>Ci/TBq</u>
H-3	400/14.8
C-14	200/ 7.4
Ra-226	20/ .74
Th-232	20/ .74
Po-210	10/ .37
U natural/depleted	200/ 7.4
U-other but not 233,235, or 238	2/ .07
At# 3-83(Total)	800/29.6
At# 84-91(Total)	2.5/ .09
TRU	2.5/ .09
Am-241	250/ 9.3
Fe-55	1000/ 37
SNM, 235U equivalent	350 grams (Duratek does not expect the enrichment level to exceed 5% by weight)

The chemical and physical form of the above isotopes may be in any form suitable for transport under US DOT regulations. This is the limitation in Duratek's Tennessee licenses.

It is expected that the imports will involve numerous shipments during the term of the license. No one shipment will exceed the values found in 10 CFR Part 110, Appendix P, Table I, Category 2. In addition, no one shipment will exceed 10 percent of the above possession limits of Duratek's current State of Tennessee Agreement State licenses.

Shipments may include one or more packages of material. However, the quantities of radioactive material in any one package will not exceed the Table A₂ values of 49 CFR 173.435.

In addition, the imported material will not exceed class A as defined in 10 CFR 61.55. Imported material will not include mixed waste (mixed hazardous and radioactive waste constituents) as defined under the Resource Conservation and Recovery Act. Contaminated recyclable resource materials (e.g., lead bricks or sheet) may be imported for beneficial reuse through decontamination for release to commercial recyclers or casting into lead products (e.g., shielded containers).

7) Route of Shipments (10 CFR 110.32(f)(5))

The expected route of imports is by truck from ports of entry at Buffalo, New York Detroit, Michigan, or Erie, Pennsylvania primarily by interstate highway to TN route 95 or 58 to Bear Creek Road.

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 Duratek's Tennessee Agreement State Licenses Number R-73008 and R-73016, as amended and renewed from time to time and other Duratek Tennessee licenses. Duratek will only import radioactive material if its Tennessee license is current or in timely renewal status.

Consistent with these licenses, material that is not volumetrically contaminated and meets the Tennessee licensed conditions for unrestricted release which currently are consistent with Regulatory Guide 1.86 may be released for unrestricted release or otherwise used by Duratek in its operations. Volumetrically contaminated material under the Tennessee license conditions may be:

- 1) recycled via melting for beneficial reuse (e.g. shield blocks) by persons authorized by an NRC or an Agreement State license or by the DOE (i.e. persons exempt from NRC regulation such as by 10 CFR 30.12) to possess and use the material or exported in accordance with NRC requirements;
- 2) burned for its energy value through an incineration process;
- 3) may be used for cooling of Duratek's processes, or
- 4) disposed of in certain RCRA Subtitle D landfills in accordance with the conditional release conditions of Duratek's Tennessee licensees (R-73008 and R-73106).

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 Tennessee license conditions for conditional release to a landfill, or 2) cannot meet the unrestricted release standard after decontamination, will be

- 1) either burned for its energy value or recycled and melted into beneficial use products a) for persons licensed by the NRC or an Agreement State or authorized by DOE (i.e. persons exempt from NRC regulation such as by 10 CFR 30.12) to possess and use the material or
b) for export under the General License provisions of 10 CFR 110.20 – 110.23 as incidental radioactive material; 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 Tennessee license conditions for unrestricted release) may be released to a clean recycler.
- c) Surficially contaminated material if meeting the Tennessee license conditions for unrestricted release either before or 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 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.

This approach for waste has been discussed with and accepted by the Tennessee Department of Health and Environment, Division of Radiological Health. Processing performed in accordance with Duratek's radioactive materials licenses requires no additional authorization beyond the NRC import and export licenses. This was again confirmed on March 31, 2006, in discussion with the Licensing Section of the Tennessee 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 provide metal products to be used in the US and other countries for both nuclear and non-nuclear related activities. Imported material will also provide burnable material that will reduce Duratek's energy needs and provide cooling material that will reduce the need to purchase cooling water. It will also assist in maintaining the US competitive advantage in decommissioning. It is consistent with international conventions entered into by the United States.