Diversified Scientific Services, Inc.
657 Gallaher Road • Kingston, TN 37763 • (423) 376-0084 • FAX (423) 376-0087

AD0234-97

July 23, 1997

Sent Via Federal Express
No. 3353250644

IW004
&
XW002

Mr. Ronald D. Hauber
Director for Non-Proliferation, Exports & Multilateral Relations
Office of International Programs
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20855

Re: Application for a Specific License to Import/Export Radioactive Waste

Dear Mr. Hauber:

Diversified Scientific Services, Inc. (DSSI) requests, under 10 CFR 110.20 (a)(2), the issuance of a specific import license to receive radioactively contaminated waste from Ontario, Canada for processing. Additionally, DSSI requests the issuance of a specific export license to return to the generator the radioactive solids associated with processing the imported material.

DSSI operates an Industrial Boiler Facility for the treatment of liquid waste. DSSI is permitted to receive this material and to perform this treatment under RCRA Part B Permit Number TNHW-024 issued by the Tennessee Division of Solid Waste Management and Radioactive Materials License Number R-73014-K98 issued by the Tennessee Division of Radiological Health.

This process completely destroys the original waste. The DSSI air pollution control system captures particulate matter and neutralizes the acid forming gasses generated during combustion of the waste. The salts from neutralization and boiler ash associated with this waste will then be returned to the generator.

Prior to making the first shipment of radioactive material to DSSI for processing, Ontario Hydro will provide written assurance from the appropriate Canadian authorities confirming Ontario Hydro's authorization to accept return receipt of their material, processed or unprocessed.

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As required by 10 CFR 110.31, the following attachments are enclosed in support of this license application:

Attachment A
Information required by 10 CFR 110.32 for an import license

Attachment B
Information required by 10 CFR 110.32 on an NRC Form 7 for an export license

Attachment C
Initial $5,000.00 application fee in accordance with 10 CFR 170.31

Additionally, a letter from Ontario Hydro concerning their ability to receive solids from DSSI generated from processing their liquid is also attached as follows:

Attachment D
Ontario Hydro letter from H. Morrison dated June 27, 1997

Thank you for your consideration in this matter. If you have any questions or require any additional information, please do not hesitate to contact me at (423) 376-8712.

Sincerely,

Jimmy R. Selph
DSSI Radiation Safety Officer

Attachments

CC: Dr. J.P. Kraznia, Ontario Hydro Technologies
Mr. Roger Perry, TN DEC, Division of Radiological Health

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ATTACHMENT A

Import License Application

Import License Application

The following information is provided, as required by 10 CFR 110.32, to support the application for a specific license to import radioactive waste.

Name and Address of Applicant

Diversified Scientific Services, Inc. (DSSI)
657 Gallaher Road
Kingston, Tennessee 37763

TN Radioactive Material License No. R-73014-K98

Name and Address of Supplier

Ontario Hydro Technologies
Pickering Nuclear Division
P.O. Box 160
Pickering, Ontario L1V 2R5

Country of Origin

Canada

Name and Address of Intermediate Consignees

There are no intermediate consignees. The waste will be shipped directly to DSSI for processing and the resultant solids will be shipped directly back.

Dates of Proposed First and Last Shipment

First Shipment - August, 1997
Last Shipment - Continuous business from date of authorization

Material Description

The radioactive wastes to be imported from Ontario Hydro Technologies are typically liquid, used oil and/or other combustible materials containing primarily H-3 and C-14, mixed fission product radionuclides, and other contaminants. The waste is generated during the normal course of business by the nuclear power utility. Only waste authorized by our RCRA Permit, our Radioactive Materials License, and the Used Oil Regulations (40 CFR 279) will be imported.

The anticipated maximum quantity of waste is $5X10^6$ kilograms per year. The anticipated maximum quantity of radioactivity is approximately 1000 Ci of H-3 and C-14 and 10 Ci of mixed fission product radionuclides per year. The wastes to be shipped to DSSI under this license will be destroyed and not disposed. Therefore the classification described in 10 CFR 61.55 is not applicable.

In accordance with 49 CFR 171.12a, the material shall be transported in accordance with Canadian and U.S. transportation regulations. The material will most likely be transported by exclusive use tractor trailer or tank truck to DSSI as Radioactive LSA or an exempt quantity.

The material was generated during the last 20 years from routine maintenance of machines and machine shop work. The generator has a regulatorily driven reason to dispose of this waste prior to August 31,1997 and there is no permitted outlet for it in Canada.

After the waste has been processed, the resultant solids will be returned to the generator in Canada for storage.

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ATTACHMENT B

NRC Form 7, Export License Application

Diversified Scientific Services, Inc.
657 Gallaher Road • Kingston, TN 37763 • (423) 376-0084 • FAX (423) 376-0087

ATTACHMENT C

Application Fee

Diversified Scientific Services, Inc.
657 Gallaher Road • Kingston, TN 37763 • (423) 376-0084 • FAX (423) 376-0087

ATTACHMENT D

Ontario Hydro letter dated June 27, 1997

ontario hydro

Box 1540, Tiverton, Ontario N0G 2T0
Telephone (519) 361-2673

MEMORANDUM

faxed 97-06-27

J. KRASZNAI
Principle Research Engineer/Scientist
Technology Services Division
KKR 230

97-06-27

FILE: WO-03463 (T5)

Ash from the Destruction of Radioactive Liquid at DSSI

We were asked if we would accept ash from the destruction of radioactively contaminated liquid if that material was destroyed at a U.S. facility such as that operated by DSSI.

Our facility is licensed to accept radioactive materials "produced at nuclear generating stations or other facilities currently or previously operated by Ontario Hydro". It is therefore essential that you are able to demonstrate that the ash we receive is the ash which arose from the radioactive materials generated at Ontario Hydro facilities. If this can be demonstrated, and if the ash meets our Waste Acceptance Criteria (attached), then we can accept if for storage at Radioactive Waste Operations Site #2.

If the ash is sent to us we would prefer to receive it in a B25 box, although new carbon steel drums are an acceptable alternative if quantities do not warrant the use of B25's.

for H. Morrison
Manager
Waste Management Services Dept.
Nuclear Waste & Environment Services Div.

KMombourquette/pb

Att.

cc: K. Mombourquette

n:\wmsmgr\memo\destruct.doc

WASTE ACCEPTANCE CRITERIA

WAC-01

BNPD RADIOACTIVE WASTE OPERATIONS SITE 2

ABSTRACT OF REVISION:

New format.
Definitions expanded.
General information expanded.
Added waste classification and packaging criteria.
Reorganized specific criteria into "Normal" and "Non-standard" wastes.
Reorganized criteria for standard low and intermediate level waste.
Revised packaging criteria for contaminated oil.

Revised by:	Verified by:	Authorized by:
G. Cleland	K. Mombourquette	H. Morrison
Date: 97-04	Date: 97/05/01	Date: 2nd May 1997

10.2 Criteria for Exempt Waste

Reserved for future criteria.

10.3 Criteria for Low Level Waste

10.3.1 LLW Incinerable

Incinerable wastes shall have a maximum dose rate of 60 mrem/h on contact with the unshielded bag.

Incinerable waste shall be packaged in clear radioactive waste bags unless otherwise specified. The bags shall be closed with tape. Bags with holes, or that contain sharp objects, shall be double bagged. Bagged waste must weigh less than 40 lbs.

Bags shall not contain visible liquids (oils, water, paint).

Bags shall have a maximum tritium level of 100 MPCa.

Dry incinerable wastes may be packaged in cardboard boxes with overall dimensions of less than 2 ft x 2 ft x 2 ft (60 cm x 60 cm x 60 cm). The box must weigh less than 40 lbs. and be labelled as to contents.

Large incinerable items (such as scaffolding planks and plywood) must be cut into pieces with a maximum dimension of 2 ft (60 cm) and bagged.

10.3.2 LLW Compactible

Compactible wastes shall have a maximum dose rate of 200 mrem/h on contact with the unshielded bag.

Compactible waste shall be packaged in clear radioactive waste bags unless otherwise specified. The bags shall be closed with tape. Bags with holes, or that contain sharp objects, shall be double bagged. Bagged waste must weigh less than 40 lbs.

Bags shall not contain visible liquids (oils, water, paint).

Bags shall have a maximum tritium level of 100 MPCa.

9.4.5 Tritium Control

Packaging must be selected to control tritium during handling (loading, transport and unloading).

9.4.6 Free-Standing Liquid

Waste packages/containers shall not contain any free standing water. (e.g., interstitial water in dewatered IX resin is acceptable, flooded resin is not acceptable).

Re-usable waste packages must be free of loose contamination and liquids inside and outside.

9.5 Waste Tracking

Waste tracking is an important element of lifecycle management of low and intermediate level waste. Shippers must have the capability to track waste from point of origin (station pick-up point) until placement into shipping packages. If bar coding technology is used, it should be compatible with Intermec technology.

9.6 Transportation

Additional restrictions based on transport regulations may apply to the packaging and shipment of waste from the generator's site to the RWOS. The Transport Co-ordinator at each facility should be consulted to assist the waste generator.

9.7 Documentation

All waste shipments received at the RWOS must be accompanied by complete documentation. For all shipments, this includes, as a minimum an approved Radioactive Materials Shipment Advice form (OH form # 820459 - external to BNPD site) or Transfer Permit (Conditional or Standing, from within BNPD site). Additional documentation is listed, where required, under the specific requirements for each waste type.

10.0 ACCEPTANCE OF NORMAL WASTES

10.1 Procedure

Normal procedure is to apply these acceptance criteria and make arrangements through WMSD Planning.

10.3.3 LLW Non-Processible

Low level non-processible waste is all low level waste that is neither incinerable nor compactible.

Low level non-processible waste shall have a maximum contact dose rate of 1 R/h.

Low level non-processible waste shall be packaged in clear radioactive waste bags unless otherwise specified. The bags shall be closed with tape. Bags with holes, or that contain sharp objects, shall be double bagged. Bagged waste must weigh less than 40 lbs.

Bags shall not contain visible liquids (oils, water, paint).

Bags shall have a maximum tritium level of 100 MPCa.

Large non-processible items may be packaged in WMSD supplied non-processible waste containers ("blue bins"). In such cases, the waste and/or container shall be sealed to prevent the spread of contamination. The exterior of the container shall be free of any loose contamination. The rated weight capacity of the "blue bin" shall not be exceeded.

HEPA filters may be packaged in suitable cardboard boxes (such as the ones which contained the replacement filters). Where the potential for loose contamination exists, the filter and/or box shall be sealed in a suitable plastic bag.

Large non-processible items may be packaged in "blue bins", provided that the unshielded dose rate on the container does not exceed 1 rem/h on contact with any surface of the container. "Blue bins" containing C-14, elemental tritium or Fe-55 wastes shall be colour coded with a tape stripe according to 9.4.1.

Some non-processible wastes, such as solidified liquids and wastes with a high potential for loose contamination, may be packaged in 205 L non-processible radioactive waste drums ("black drums" such as OH MatCode # 223A4625 or 223A1790). The drums shall be sealed and the contents of the drum shall be clearly marked on the side of the drum. Where six or more drums are to be shipped, the drums shall be shipped on WMSD supplied drum racks ("bale racks" - OH MatCode # 599A6700), six per rack.

If scrap (previously used) drums are used, they must be in good condition (e.g., leak tight, rust free). In addition, any old markings which are not appropriate for the new waste form shall be completely covered over with opaque paint. (e.g., do not leave words like "Waste Oil" stencilled on a drum which actually contains metal shavings.)

NOTE: The use of drums for routine non-processible waste is severely discouraged due to in-efficient storage. (A rack of six drums with a capacity of 1.2 m^3 of waste occupies 3.4 m^3 of storage space).

10.3.6 Iron-55 Contaminated

Iron-55 (Fe-55) contamination is present to varying degrees during Bruce A fuel channel maintenance. When Fe-55 is identified by Bruce A as being a hazard in low level waste, the following is required:

Contact the Operations Co-ordinator (3201) **PRIOR** to transferring the Fe-55 contaminated waste.

Unless agreed to otherwise by the Operations Co-ordinator, Fe-55 waste is to be transferred to RWOS on weekdays during dayworker hours.

Incinerable Fe-55 waste must be double bagged, marked with brown tape (T1.1) and shipped in 1 cubic meter containers clearly marked "FE-55 INCINERABLE WASTE".

Fe-55 contaminated compactible waste is treated as non-processible. Non-processible Fe-55 waste must be packaged as follows:

- caulk all joints of a "blue bin" with silicone caulking compound
- line the bin with plastic sheeting and cover and seal the plastic with duct tape
- cover the blue bin by strapping on a 1/2 inch thick plywood sheet
- mark the bin "FE-55 NON-PROCESSIBLE WASTE"

10.3.7 Reject Drums

All reject drums shall be free of liquids and sludge inside and free of loose contamination on the outside.

The maximum contact dose rate on any surface of the drum shall be less than 1 rem/h. If the dose rate exceeds this limit, the drum must be decontaminated prior to shipment to the RWOS.

Reject drums which may contain loose contamination on the inside, and cannot be sealed (for example due to deformation of the drum) shall be sealed in a suitable plastic bag.

10.3.8 HT Contaminated TRF Waste

Metallic waste with high levels of surface elemental tritium shall be packaged as follows:

a) double bag components in polyethylene, minimise the void volume,
b) heat seal in a metallic foil bag, and place into a steel drum,
c) backfill void space with moist vermiculite, or other absorbent,
d) contain in a 1 cm thick sealed high density polyethylene salvage overpack (Enpac) labelled "TRF ELEMENTAL TRITIUM WASTE.

Tritiated oils, limited to 1000 Ci per package, shall be packaged as follows:

a) absorbed on sawdust (or other oil absorbent),
b) place in a steel drum,
c) contain in a 1 cm thick, sealed high density polyethylene salvage overpack (Enpac)

The HDPE salvage overpack might have to be further contained in a qualified container for transportation purposes.

10.4 Criteria for Intermediate Level Waste

All waste with greater than 1 rem/h gamma contact shall be considered Intermediate Level Waste. All filters and IX columns used for cleanup of systems with long half life radionuclides or with the potential for alpha and/or high activity particles, are considered to be intermediate level waste. For example, fuel bay filters are considered to be intermediate level waste at low dose rates.

10.4.1 Small Filters and IX Columns

All waste containers for Type 3 wastes (such as filter drip cans, disposable filter vessels and shutoff rod liners) shall be designed for storage in an IC-18 or equivalent storage structure. Except for 3 m^3 IX resin liners (see Section 10.4.3) and similar packages, the maximum OD for the waste containers is 20 inches (51 cm). Oversized wastes with OD up to 22 inches (56 cm) can be accepted as non-standard waste for tilehole storage (11.0).

All waste packages must be designed for bottom unloading into IC-18's in a manner that controls the descent of the waste, contains loose contamination, and limits dose rates to less than 300 mrem/h during storage operations.

IX columns must be sealed. Small filters must be contained in a sealed container or a competent drip can.

10.4.2 Core Components

All waste packages must be designed for bottom unloading into IC-18's in a manner that controls the descent of the waste, contains loose contamination, and limits dose rates to less than 300 mrem/h during storage operations.

Full length core components can be stored in specially adapted IC-18's. Such operations generally require long lead times and special equipment. Please contact the WMSD Waste Operations Technical Supt. during the early planning stages for the job for detailed requirements on a case by case basis.

10.4.3 Bulk Ion Exchange Resin

Bulk ion exchange (IX) resins must be packaged in containers approved by WMSD. The standard containers for resins are "4 m^3 Low Level Resin Container" (OH MatCode # 599A6735 for storage of resins with a contact dose rate of less than 1 rem/h in Low Level Storage Buildings) and "3 m^3 Resin Liner" (OH MatCode # 599B6406 for storage of resins in the IC-18's). Bulk resin containers are normally obtained by contacting the WMSD Operations Co-ordinator.

All penetrations on the resin containers must be sealed with suitable threaded metal plugs.

The resin containers must be de-watered to less than 1% free standing water prior to shipment to the RWOS.

The 3 m^3 resin liner must be loaded into the transportation flask using approved procedures to ensure that the lifting lug remains accessible.

The 3 m^3 resin liner must be free of loose contamination and water on the outside.

10.4.4 Large Heat Exchangers for In-Ground Container IC-HX Storage

These criteria apply to large heat exchangers only. Contact WMSD to discuss the suitability and preparation of individual heat exchangers for storage as inground heat exchangers (IC-HX) as follows:

All heat exchangers shall be dry on both the tube side and shell side, and free of loose contamination on the exterior of the shell.

All heat exchangers shall have a minimum wall thickness of 3/8" (1 cm). All penetrations in the outer shell shall be sealed with welded caps with a minimum thickness of 3/8".

All heat exchangers shall be coated with a suitable corrosion protection coating (such as coal tar epoxy, or equivalent approved by the WMSD Operations Co-ordinator).

All heat exchangers shall be vacuum leak tested to -6 psig (-42 kPag) and holding the vacuum for a minimum of 30 minutes, as indicated on a vacuum gauge connected to both the shell side and tube side. The leak test is to be done before the coating is applied. All leaks must be located and repaired using welded caps. After a successful vacuum test, the heat exchangers are to be backfilled with nitrogen.

All heat exchangers shall have the weight and maximum dose rate stencilled on the side.

All heat exchangers shall have suitably designed lifting lugs to allow lifting and rotation from horizontal to vertical.

A quality inspection check sheet must accompany the shipment describing weld quality control, leak testing and corrosion protection.

All heat exchangers destined for IC-HX storage shall be provided with a leak test port consisting of a 3/4" NPS pipe which penetrates both the shell and tube side, and extends approximately 4 ft (1.2 m) above the top of the heat exchanger when raised to a vertical orientation. The leak test line shall be provided with a ball valve at the upper end. The ball valve shall be capped with a suitable pipe plug. A similar vent line, open at both the top and bottom (no valve) is to be attached to the exterior of the heat exchanger shell and protrude to the same height as the leak test line. The vent line shall be fitted with a U-bend at the upper end to prevent the ingress of precipitation.

An inspection / test report (OH form 241547) must be completed and forwarded to WMSD Technical.

10.4.5 Miscellaneous Bulky Items

The existing storage facility at RWOS are designed for specific waste form geometries. Miscellaneous bulky items are treated as non-standard wastes (11.0).

10.4.6 High Activity particles

Waste containing known high activity particles are considered non-standard (11.0).

10.5 Other Hazardous Waste

10.5.1 Scintillation Fluids

Liquid scintillation fluid vials must be packaged in a manner suitable for incineration. The currently recommended method is to put the vials in a 20 L (5 gal) white polyethylene pail (OH MatCode # 22320704). The lid of the pail must be sealed in place with duct tape. The pail must be clearly marked as containing liquid scintillation vials, such as with OH MatCode # 822C4276 radioactive liquid scintillation fluid labels. Waxed cardboard boxes may also be used, subject to the size and weight restrictions given in T1.6.

10.5.2 Animal Carcasses

Biological wastes (such as animal carcasses from OH Technologies) shall be sealed in air tight incinerable containers, such as 20 L (5 gal) polyethylene pails (OH MatCode # 22320704). The pail lids shall be sealed with duct tape and the containers shall be clearly marked as containing biological wastes for immediate incineration.

11.0 ACCEPTANCE OF NON-STANDARD WASTES

11.1 Procedure

Radioactive waste types not specifically mentioned in this document shall only be shipped to the RWOS with prior aporoval from the WMSD Operations Co-ordinator or authorised designate. This is accomplished by completing OH Form 821032 "Notification of Non-Routine Radioactive Waste Shipment". An approved copy of the form must accompany the shipment.

11.2 Criteria for Liquid

With prior approval and prior notification, absorbed liquids that are suitably packaged, may be accepted for immediate incineration. Other criteria for LLW Incinerable (10.3) may also apply.

11.3 Criteria for Interim Storage of Oil

Radioactive waste oil is accepted for interim storage only. The generator is responsible for the full costs once a suitable processing technique is implemented..

All shipments of radioactive oils require the PRIOR approval of the WMSD Operations Co-ordinator. The shipper must send a copy of the radiological and chemical analyses to the RWOS Operations Co-ordinator prior to the shipment. The analyses must confirm that the oil meets the criteria listed in RO.2.

The oil shall meet the following chemical and radiological criteria:

- no decantible water
- total PCB < 50 ppm
- total Chlorine < 20000 ppm
- total Lead < 300 ppm (see also RO.4)
- total Cadmium < 0.5 ppm
- Flash point > 61° C
- Tritium < 9.59×10^{-2} Ci/L
- Gross beta/gamma < 3.14×10^{-4} Ci/L

The oil must also be non-explosive, non-flammable, non-corrosive and non-toxic. It may, however, be combustible. Oil which fails to meet one or more of the above criteria is NOT acceptable for storage.

Drums of oil with a lead concentration greater than 5 ppm must be labelled with:

LEACHATE TOXIC - LEAD

Oil must be contained in new, leak free drums with a "bung" type closure (such as OH MatCode # 223A3190). The drums shall be stencilled with:

RADIOACTIVE WASTE OIL

Each drum shall also be stencilled with a serial number corresponding to the radiological and chemical analysis sample numbers used for RO.3.

Where six or more drums of oil are to be shipped, the drums shall be shipped on drum racks ("bale racks" - OH MatCode # 599A6700), six per rack. Empty racks are available from the Operations Co-ordinator.

11.4 Criteria for Solidified Liquids

Liquids wastes must be solidified by a method approved by WMSD. Requests for approval of a new (or non-standard) solidification method must be made to the WMSD Operations Co-ordinator in writing PRIOR to the performing of the solidification operation.

All shipments of solidified liquids must be accompanied by an approved "Solidified Liquid Waste Record" (OH form #820939), along with detailed chemical and radiological analyses of the solidified liquid. The form must be approved by the WMSD Operations Co-ordinator PRIOR to shipment of the solidified liquid waste to the RWOS.

The liquids shall be completely solidified, with no free standing liquid.

The solidified liquid must be in a container approved by WMSD. Requests for approval of a new (or non-standard) container must be made to the WMSD Operations Co-ordinator in writing PRIOR to the performing of the solidification operation. All containers shall be provided by the waste generator.

11.5 Criteria for Interim Storage of Contaminated Tooling

ISO marine freight containers (cargo containers) are used for interim storage of slightly contaminated tooling, not for storage of wastes as follows:

Standard 20 ft ISO marine freight containers are normally used, however other similar containers can be used with PRIOR approval by WMSD. The containers are stored outdoors, so temperature sensitive equipment should not be included in such containers.

The shipper provides the container, loads it, inventories it, locks it and arranges for it to be shipped to the RWOS.

All loads in the container shall be suitably constrained against shifting under transport or lifting conditions.

The maximum external radiation field for storage is 2.5 mrem/h @ 1 m. All materials inside the container shall be decontaminated to a level of less than 5000 cpm of loose contamination.

The shipper must include a completed "Storage of Cargo Containers" form (BNPD form # BF-743) showing the load distribution along with a detailed inventory listing with the shipping documents.

WMSD will periodically require the owners of contaminated tooling to justify its continued interim storage. A charge will be applied at that time.

11.6 Criteria for Fuel Flea Contamination

Wastes contaminated with fuel fleas are acceptable only with prior approval by WMSD.

12.0 EXCLUSIONS (UNACCEPTABLE WASTE)

Wastes shall not contain any recognisable fuel fragments.

12.1 Waste Origin

Wastes are unacceptable if produced in a location other than in a nuclear generating station and other facilities currently or previously operated by Ontario Hydro.

12.2 Waste Form

12.2.1 Liquids

Liquid wastes other than scintillation fluids (10.5.1), contaminated oil (11.3) and absorbed liquids (11.2) are unacceptable.

Aqueous liquid wastes are not accepted for storage at the RWOS. All aqueous liquids must be solidified at the generating site by an approved method prior to shipment to the RWOS.

Waste packages/containers shall not contain any free standing water. (e.g., interstitial water in dewatered IX resin is acceptable, flooded resin is not acceptable).

12.2.2 Gases

Compressed gases are unacceptable.

Gaseous waste is unacceptable.

12.3 Radiological Content

12.3.1 Recognizable Used Fuel Fragments

12.4 Non-Radiological Content

Reserved for future criteria.

13.0 NON-COMPLIANT WASTES

Whenever waste is received at RWOS that unexpectedly does not meet the WAC, then, in order of preference:

a) the waste will be *held* in its existing form or package awaiting special tooling and / or handling procedures, or
b) the waste will be *held* and the shipper will be requested to supply advisor(s) who are familiar with the waste form and its package, or
c) the waste will be returned to the shipper to be made into an acceptable form and/or packaged acceptably.

Surcharges may be applied in these situations as per service level agreements or negotiations between WMSD and the shipper.

14.0 WASTE AUDITS

WMSD performs waste audits on a regular basis. When access is required to the stations, arrangements will be made in advance with approval of the station involved. Some audits will be conducted at RWOS on incoming waste. All audits will be conducted according to approved WMSD procedure. All non-conformances and findings will be reported to the shipper.

15.0 REFERENCES

BNPD Radioactive Waste Operations Site 2 Operating Licence AECB-WFOL-314 and current reference documents

- BNPD Radioactive Waste Operations Site 2 Safety Report
- Ontario Hydro Radiation Protection Regulations, Part 1
- Radioactive Waste Operations: Operating Policies & Principles, 01911.1.

NWESD Radiation Protection Procedures, 09071

Waste Acceptance at BNPD Radioactive Waste Operations Site, NWESD Policy WMSD 1.57, Revision 0, August 1996

Waste Acceptance at BNPD Radioactive Waste Operations Site, NWESD Procedure WMSD 03460-1, Revision 0, August 1996

Packaging of Low & Intermediate Level Waste - Catalogue of WMSD Supplied Packages, NWESD WAC-02, Rev. 1, February 1997

WASTE ACCEPTANCE CRITERIA		NWESD WAC-01	Page A1 of 1
REV 4			

APPENDIX A

LOW LEVEL WASTE

INCINERABLE	COMPACTIBLE	NON-PROCESSIBLE
Maximum Dose Rate: 60 mrem/hr contact	Maximum Dose Rate: 200 mrem/hr contact	Maximum Dose Rate: 1 rem/hr at 30 cm
Paper & Paper Towel Tyvek Coveralls, Booties, and Hoods Plastic Booties Plastic Bottles Wood (2'x2'x2') Cardboard Mop Heads - dry and damp Smears/Filter Paper Cloths Rope and Nylon Slings Floor Buffing Pads Safety Shoes Browns Cotton Gloves	Comfo Respirator Filters Light Gauge Metals Welding Rods Metal Cans Insulation Ventilation Filters Air Hoses Mop Buckets and Presses Electric Cable (<1/4") Lathe Turnings Metal Filings Glass Plastic Suits (Mark III/IV) Rubbers Vicraft Hoods Rubber Gloves	Heavy Gauge Metal i.e. I-beams, angle iron, plate metal, etc. Metal Components i.e. pipes, flanges, valves, etc. Concrete and Cement Blocks Floor Sweepings, Dust Bane, Stay Dry, etc. Tools Electric Cables (>1/4") Wire Cables and Slings

NOTES:

(1) All waste is to be bagged/wrapped such that the size and weight do not exceed the following:

Maximum Weight:	25 lbs or 11.5 kg
Maximum Size:	2'x2'x2' or 60cm x 60cm

(2) No liquids are to be present, i.e. oils, water, paint, etc. Special precautions should be taken to avoid sending paint cans and similar type containers which are partially full.

(3) For C14, Fe55, and TRF waste, the following should be performed:

- identify the individual bags by using different colour tape

C14	Blue tape
Fe55	Brown tape
RF	Red tape

- segregate the waste into two categories: incinerable and non-processible. All compactible waste to be treated as non-processible.

DCS

U.S Nuclear Regulatory Commission

APPROVED BY OMB NO. 3150-0027
EXPIRES 5-31-97

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 1.7 HOURS. THIS MANDATORY SUBMITTAL IS REVIEWED TO ENSURE THAT THE APPLICABLE STATUTORY, REGULATORY, AND POLICY CONSIDERATIONS ARE SATISFIED. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0027), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICATION FOR LICENSE TO EXPORT CLEAR MATERIAL AND EQUIPMENT

(See Instructions on Reverse)

11004983

a. DATE OF APPLICATION	b. APPLICANT'S REFERENCE	2. NRC USE→	a. DOCKET NUMBER	b. LICENSE NUMBER
7/23/97	AD0234-97		11004983	IW0044XW002

3. NAME AND ADDRESS	RIS
cientific Services, Inc.	
RESS (Facility Site) Road	
d. STATE Tennessee	e. ZIP CODE 37763
NUMBER (Area Code - Number - Extension) 084	

4. SUPPLIER'S NAME AND ADDRESS (Complete if applicant is not supplier of the material)	RIS
a. NAME Same as Number 3	
b. STREET ADDRESS	
c. CITY	d. STATE / e. ZIP CODE

NT	6. FINAL SHIPMENT SCHEDULED	7. APPLICANT'S CONTRACTUAL DELIVERY DATE	8. PROPOSED LICENSE EXPIRATION DATE	9. U.S. DEPARTMENT OF ENERGY CONTRACT NO. (If Known)
	On-Going	before August 31,1997	Maximum length allowed	N/A

OREIGN CONSIGNEE	RIS
o Technologies	
RESS (Facility Site) clear Station	
tario	d. COUNTRY Canada

11. ULTIMATE END USE (Include plant of facility name)	USE CODE
Retu:n solid material from processing liquids from Ontario Hydro to Pickering Nuclear Station for storage.	
11a. DATE REQUIRED	August 31,1997

E FOREIGN CONSIGNEE	RIS
N/A	
RESS (Facility Site)	
	d. COUNTRY

13. INTERMEDIATE END USE	USE CODE
N/A	
13a. DATE REQUIRED	

E FOREIGN CONSIGNEE	RIS
N/A	
RESS (Facility Site)	
	d. COUNTRY

15. INTERMEDIATE END USE	USE CODE
N/A	
15a. DATE REQUIRED	

17. DESCRIPTION (Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)	18. MAX ELEMENT WEIGHT	19. MAX WT. %	20. MAX ISOTOPE WEIGHT	21. UNIT
SSI's combustion process completely destroys e original waste liquids. The DSSI air pollution ontrol system captures particulate matter and eutralizes the acid forming gasses generated ring combustion of the waste. The salts from eutralization and boiler ash associated with this aste will be the material returned to the enerator. The radionuclides returned will be imarily mixed fission products with an annual tivity of less ten (10) curies. The waste does t contain Source Material or Special Nuclear aterial.	N/A	N/A	N/A	N/A

F ORIGIN - ATERIAL	23. COUNTRY OF ORIGIN - SNM WHERE ENRICHED OR PRODUCED	24. COUNTRIES WHICH ATTACH SAFEGUARDS (If known)
	N/A	N/A

FORMATION ON CONDIGNEES, END USES, AND PRODUCT DESCRIPTIONN (Use separate sheet if necessary)

tter AD0234-97 dated July 23, 1997 to the U.S. NRC regarding an application for a specific license to radioactive waste.

certifies that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that all information in this application est of his/her knowledge

D OFFICIAL	a. SIGNATURE	b. TITLE
		DSSI Radiation Safety Officer

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