AD33-1
PDR

HRA-92/99

Westinghouse Electric Corporation Energy Systems

Electro Mechanical Division

Cheswick Avenue
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 963 5000
Telex 703366

June 15, 1992

Mr. Mark Haisfield
Office of Nuclear Regulatory Research
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Examples of Shipping Paperwork

Dear Mr. Haisfield:

During the recent ACURI Technical Advisory Committee meeting regarding the proposed uniform manifest and shipping papers, I promised to send you further information. The attached shipping papers are examples from two shipments of radioactive materials, NOT classified as waste. The names and shipping addresses have been removed to protect the innocent.

This paperwork demonstrates that standard shipments of radioactive materials, as well as shipments of radioactive waste, utilize the same format for Department of Transportation (DOT) requirements. When numerous containers are transported on a vehicle with the same DOT classification, Radioactive Material LSA, the standard DOT information is provided on the "Bill of Lading" for the entire shipment. Additional information on a per container basis is provided on attached sheets with the heading "Radioactive Material Transfer and Shipment Record", or something similar.

These examples along with the information provided to you at the meeting show that most shippers of radioactive materials and waste generate the DOT shipping papers in a very similar standard format. The proposed DOT shipping document presented does not conform with the present method of paperwork preparation. As mentioned in the meeting, most shippers have not experienced an overabundance of violations from the DOT regarding the preparation of this paperwork. Including the additional information as required in the proposed DOT shipping format would significantly impact all shippers of radioactive materials and waste. This impact will be increased with intensity as the number of containers increases.

I strongly support the proposal for creating a uniform radioactive waste manifest but have serious reservations about expanding this uniformity to include DOT required paperwork.

I greatly appreciate the information provided during the meeting and your willingness to listen to our comments. If you have any further questions or comments, please feel free to contact me at (412) 953-5032.

Sincerely,

Lisa Lamantia

Lisa Lamantia
Radiation Safety Officer

5021

Attachment

STATION

STRAIGHT BILL OF LADING — SHORT FORM — ORIGINAL — NOT NEGOTIABLE.

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading.

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), Marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, And as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the uniform domestic straight bill of lading set forth (1) in official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, Or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Control Number	
Tractor No.	141
Trailer No.	453
LENGTH	Legal
HEIGHT	Legal
WIDTH	Legal

(MAIL OR STREET ADDRESS OF CONSIGNEE — FOR PURPOSES OF NOTIFICATION ONLY.)

FROM ____ Date 1-25-91

At

CONSIGNED TO

DESTINATION — STATE COUNTY

NO. PKGS.	HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, LINER NUMBERS, SPECIAL MARKS & EXCEPTIONS	*WEIGHT (Subject to Correction)
3	X	RADIOACTIVE MATERIALS, L.S.A., R.Q. UN2912 : Box #1 Oil Cooler	37290
		Box #2 Flywheel & Box #3 UPPER BEARING HOUSING,	
		RADIONUCLIDE = MFP	
		ACTIVITY = 110.86 mCi	
		Solid/oxides, TI - N/A	
		"Radioactive" PLACARDS Required	
		EPA ID #	
		* Residual Liquid in Box #1 & Box #3	9-20
		THIS SHIPMENT MUST BE LOADED BY CONSIGNOR AND UNLOADED BY THE CONSIGNEE ON HIS DESIGNATED AGENT. SOLE USE VEHICLE ONLY FOR.	

IMPORTANT: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature ____

Company ____ Date 1/25/91

Received the property described above in good condition, except as otherwise noted.

Carrier ____

Driver ____

Date and Time 9-28-91 10:

	DATE	TIME		DATE	TIME	
SCHEDULED TO ARRIVE		A.M. P.M.	COMPLETED LOADING	1-25-91	1600 A.M. P.M.	SHIPPER'S SIGNATURE
ARRIVED AT SHIPPER	1-26-91	1050 A.M. P.M.	LEFT SHIPPER	1-26-91	1124 A.M. P.M.	SHIPPER'S SIGNATURE

SHIPPER IMPORTANT NOTE: Your signature certifies that the above dates and times are correct for record keeping and billing purposes.

FORM 205

EMERGENCY RESPONSE #

Form
Page 1 of 1
(Rev 1)

EPA ID Number: As

RADIOACTIVE MATERIAL TRANSFER AND SHIPMENT RECORD

Transferred to (consignee): _____

Address: _____

Carrier: _____

[X] Specific License No.: _____ Shipment Form ID#: _____

Expiration date: Date of Renewal enf. Shipping Date: 9-25-91

[ ] Exempt per 10CFR30.18 Sheet 1 of 1

Truck/Cab # 14 Trailer # 453

Number and Package Description	DOT Shipping Name and Number	Total millicuries	Total Weight	Other
3 wooden Boxes [ ] NRC approved package, ID marking: _____	[ ] Excepted from shipping paper requirements. [X] Radioactive Material, LSA, n.o.s., UN2912, [ ] Radioactive Material, Limited Qty, n.o.s., UN2910, [ ] RQ	110.86	37200	[ ] Highway route controlled quantity.

Item Number	Description of Contents	Physical and Chemical Form	Activity mCi	Radionuclides	Container Weight, lbs	Container Spec or Type	Rad Levels, mR/h Surface	Rad Levels, mR/h 1 meter	Package Label TI, or Marking
1	Oil Cooler	Solid Oxides	10.42	MFP	2200	Strong Tight	1	.5	[ ] No label required, [ ] Empty [ ] Radioactive White I, [X] LSA [ ] Radioactive Yellow ___, T.I. = ___
2	Fl. Wheel	Solid Oxides	45.96	MFP	17,200	Strong Tight	3	.7	[ ] No label required, [ ] Empty [ ] Radioactive White I, [X] LSA [ ] Radioactive Yellow ___, T.I. = ___
3	Upper Bearing housing	Solid Oxides	54.48	MFP	17,800	Strong Tight	10	1	[ ] No label required, [ ] Empty [ ] Radioactive White I, [X] LSA [ ] Radioactive Yellow ___, T.I. = ___
									[ ] No label required, [ ] Empty [ ] Radioactive White I, [ ] LSA [ ] Radioactive Yellow ___, T.I. = ___
									[ ] No label required, [ ] Empty [ ] Radioactive White I, [ ] LSA [ ] Radioactive Yellow ___, T.I. = ___

[X] Each package item described above has been monitored for external removable radioactive contamination and is within the limits of 49CFR173.443.

Special Instructions or Information to Carrier (applicable items are indicated below by an "x" in the appropriate box or as written)

[X] This vehicle is consigned as sole use. Shipment must be unloaded by consignee or his designated agent for the transport vehicle in which originally loaded.

[ ] See attached Form _____, "Special Instructions to Carrier" for additional requirements.

[X] See attached Form _____, "Emergency Response Information"

[X] Residual Liquid Box #1 (Oil Cooler) AND Box #3 (Upper bearing housing)

Shipper Certification (applicable certification is indicated below by an "x" in the appropriate box)

[ ] This package conforms to the conditions and limitations specified in [ ] 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s., UN2910; [ ] 49 CFR 173.422 for excepted radioactive material, instruments and articles, UN2911, [ ] 49 CFR 173.427 for excepted radioactive material, empty packages, UN2908; and is in proper condition for transportation

[X] This is to certify that the herein-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signed: _____ date: 9-25-91 Reviewed By _____ date: 9/25/91

EMERGENCY RESPONSE

STRAIGHT BILL OF LADING — SHORT FORM — ORIGINAL — NOT NEGOTIABLE.

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading.

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the uniform domestic straight bill of lading set forth (1) in official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, Or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Control Number

Tractor No. 17

Trailer No. 42

LENGTH: LEGAL

HEIGHT: Legal

WIDTH: Legal

(MAIL OR STREET ADDRESS OF CONSIGNEE — FOR PURPOSES OF NOTIFICATION ONLY.)

FROM

Date 10/4/91

At

CONSIGNED TO

DESTINATION

STATE

COUNTY

NO. PKGS.	HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, LINER NUMBERS, SPECIAL MARKS & EXCEPTIONS	*WEIGHT (Subject to Correction)
5	X	RADIOACTIVE MATERIAL, LSA, UN2912; (5) WOODEN BOX	27,250
		with contaminated RCP motor parts	
		Radionuclides = MFP	
		Activity = LESS THAN 1 mCi	
		Solid/Oxides TI: N/A	
		+ Residual Liquid in Box #4	
		Radioactive "Placards Required	
		EPA ID# VAT	
		THIS SHIPMENT MUST BE DELIVERED BY THE CONSIGNOR AND UNLOADED BY THE CONSIGNEE OR HIS DESIGNATED AGENT	SOLE USE VEHICLE

IMPORTANT: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature

Company

Date 10/4/91

Received the property described above in good condition, except as otherwise noted.

Carrier

Driver

Date and Time 10-4-91 1500

	DATE	TIME		DATE	TIME	
SCHEDULED TO ARRIVE	10/4/91	A.M. P.M.	COMPLETED LOADING	10/4/91	1500 A.M. P.M.	SHIPPER'S SIGNATURE
ARRIVED AT SHIPPER	10/4/91	A.M. P.M.	LEFT SHIPPER	10/4/91	1500 A.M. P.M.	SHIPPER'S SIGNATURE

Line 7 response #

P.O. Box

EPA ID Number:

Page 1 of 1
(Rev 1)

RADIOACTIVE MATERIAL TRANSFER AND SHIPMENT RECORD

Transferred to (consignee): _____

Address: _____

Carrier: _____

[X] Specific License No.: _____ Shipment Form ID#: _____

Expiration date: Letter of Renewal on File Shipping Date: 10-4-91

[ ] Exempt per 10CFR30.18

Truck/Cab # 14 Trailer # 453

Sheet 1 of 1

Number and Package Description	DOT Shipping Name and Number	Total millicuries	Total Weight	Other
(5) Wooden 12x12's [ ] NRC approved package, ID marking: _____	[ ] Excepted from shipping paper requirements. [X] Radioactive Material, LSA, n.o.s., UN2912, [ ] Radioactive Material, Limited Qty, n.o.s., UN2910, [ ] [ ] RQ	189.1	27,200	[ ] Highway route controlled quantity.

Item Number	Description of Contents	Physical and Chemical Form	Activity mCi	Radionuclides	Container Weight, lbs	Container Spec or Type	Rad Levels, mR/hr Surface	Rad Levels, mR/hr 1 meter	Package Label, TI, or Marking
# 5	RCP Misc. Parts	Solid: Oxides	12.7	MFP	2,800	Strong Tight	2	.6	[X] No label required, [ ] Empty [ ] Radioactive White I, [X] LSA [ ] Radioactive Yellow ___ t.i. = ___
# 6	(2) Air Coolers & Adapter	Solid: Oxides	52.7	MFP	3800	strong Tight	7	2	[X] No label required, [ ] Empty [ ] Radioactive White I, [X] LSA [ ] Radioactive Yellow ___, t.i. = ___
# 7	Thrust Bearing	Solid Oxides	4.1	MFP	2500	strong tight	.5	.2	[X] No label required, [ ] Empty [ ] Radioactive White I, [X] LSA [ ] Radioactive Yellow ___, t.i. = ___
# 8	RCP misc Parts	Solid Oxides	2.7	MFP	1600	strong tight	.5	.2	[X] No label required, [ ] Empty [ ] Radioactive White I, [X] LSA [ ] Radioactive Yellow ___, t.i. = ___
# 9	RCP Rotor	Solid Oxides	116.9	MFP	16,500	strong tight	10	2	[X] No label required, [ ] Empty [ ] Radioactive White I, [X] LSA [ ] Radioactive Yellow ___, t.i. = ___

[ ] Each package item described above has been monitored for external removable radioactive contamination and is within the limits of 49CFR173.443.

Special Instructions or Information to Carrier (applicable items are indicated below by an "x" in the appropriate box or as written)

[X] This vehicle is consigned as sole use. Shipment must be unloaded by consignee or his designated agent for the transport vehicle in which originally loaded.

[X] See attached Form _____, "Special Instructions to Carrier" for additional requirements.

[X] See attached Form _____, "Emergency Response Information"

[X] Residual Liquid in Box # 6

Shipper Certification (applicable certification is indicated below by an "x" in the appropriate box)

[ ] This package conforms to the conditions and limitations specified in [ ] 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s., UN2910; [ ] 49 CFR 173.427 for excepted radioactive material, empty packages, UN2908; [ ] 49 CFR 173.422 for excepted radioactive material, instruments and articles, UN2911.

[X] This is to certify that the herein-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signed: _____, date: 10-4-91; Reviewed By _____, date: 10-4-91

UNITED STATES
NUCLEAR REGULATORY COMMISSION
Office of Public Affairs
Washington, D.C. 20555

No. 92-58
Tel. 301-504-2240

FOR IMMEDIATE RELEASE
(Tuesday, April 21, 1992)

NRC PROPOSES CHANGES ON MANIFESTS FOR LOW-LEVEL RADIOACTIVE WASTE SHIPMENTS

The Nuclear Regulatory Commission is considering amending its regulations to improve the quality and usefulness of information contained on shipment manifests associated with the transportation of low-level radioactive waste.

Manifests are large, multi-copy detailed invoices of cargo currently required by the NRC and others to accompany and track transfers of low-level radioactive waste intended for disposal in the United States at low-level waste disposal facilities.

The NRC believes that the existing manifest and recordkeeping system needs improvement because information in current manifests is inconsistent and does not meet all regulatory needs as presently envisioned. Information storage at existing low-level waste disposal facilities (located at Barnwell, SC; Richland, WA; and Beatty, NV) is similarly inconsistent, and the information cannot be readily accessed and evaluated. These problems could become worse with the expected increase in the number of disposal sites nation-wide.

The proposed uniform manifest would help solve these problems by clarifying, standardizing, reorganizing and, to a limited degree, expanding the information contained on existing manifests. Current NRC control and tracking requirements for low-level waste shipments would remain unchanged, but the capability of tracing the origin of low-level waste back from the disposal site to the generator would be improved. The changes would also require low-level radioactive waste disposal facility operators to store information electronically and be capable of transmitting the stored information on machine-readable media, such as magnetic discs or tapes.

In addition, one part of the manifest would meet the Department of Transportation's requirements for shipping papers.

Further details of the proposed changes, which are to Parts 20 and 61 of the Commission's regulations, are contained in a Federal Register notice published on April 21, 1992. Copies of the proposed new uniform low-level radioactive waste manifest are available from Mark Haisfield, Office of Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone: 301/492-3877. Interested persons are invited to submit written comments by July 20, 1992, to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch.

#

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, .C. 20555

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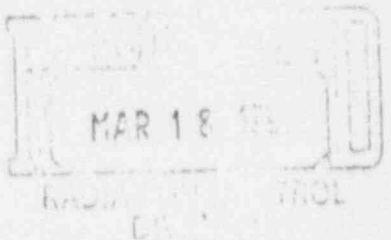
DIV OF ENGINEERING
DIVISION DIRECTOR
NL-007
WASHINGTON DC 20555

AD33-1
PDR

L LW
FORUM

March 13, 1991

Ken Weaver
Chair, E-5 Committee
Conference of Radiation
Control Program Directors
Senior Health Physicist
Radiation Control Division
Department of Health
State of Colorado
4210 East 11th Avenue
Denver, Colorado 80220



Dear Mr. Weaver:

At the Low-Level Radioactive Waste (LLW) Forum Quarterly Meeting in January, Participants discussed waste acceptance criteria and passed the following motion:

> the LLW Forum recognizes that waste acceptance criteria for storage and disposal is an important issue and needs to be addressed as soon as possible. The LLW Forum encourages the Conference of Radiation Control Program Directors to discuss this issue at its next meeting. The LLW Forum also encourages the NRC and the Host State/Agreement State regulatory agencies to discuss this at their next meeting.

As you are aware, the Low-Level Radioactive Waste Forum is an association of representatives of states and compacts established to facilitate state and compact commission implementation of the Low-Level Radioactive Waste Policy Amendments Act of 1985 and to promote the objectives of low-level radioactive waste regional compacts. The Forum provides an opportunity for states and compacts to share information with one another and to exchange views with officials of federal agencies. LLW Forum Participants include representatives from regional compacts, designated host states, unaffiliated states, and states with currently operating low-level radioactive waste facilities.

Low-Level Radioactive Waste Forum
*
c/o Afton Associates, Inc.
403 East Capitol Street
Washington DC 20003
(202) 547-2620
FAX (202) 547-1668

It is evident the LLW Forum Participants--official representatives appointed by Governors and Compact Commissions--are very interested in waste acceptance criteria. We hope that the Conference of Radiation Control Program Directors will be willing to take up this topic at its next meeting.

If you need any additional information about this, please contact me or Lori Tripoli. Lori is the LLW Forum Program Coordinator at Afton associates, Inc., the management firm for the Forum.

Yours,

Jerry Griepentrog

Jerry Griepentrog
Convenor, LLW Forum

Director, Department of Human Resources, State of Nevada

Chair, Rocky Mountain Low-Level Radioactive Waste Compact Board

PROPOSED GUIDELINES

FOR

CLASSIFYING SHIPMENTS

OF

RADIOACTIVE MATERIALS

AND

LOW-LEVEL RADIOACTIVE WASTE

LLW Forum Working Group on Materials & Waste
c/o Afton Associates, Inc.
403 East Capitol Street
Washington, DC 20003
(202) 547-2620 • FAX (202) 547-1668

Low-Level Radioactive Waste Forum

May 15, 1991

BACKGROUND

In July 1989, the Materials & Waste Working Group was formed as an outgrowth of a Low-Level Radioactive Waste Forum Seminar on Interregional Low-Level Radioactive Waste Treatment and Processing. After the seminar, the Forum unanimously endorsed the following resolution:

> **It is the consensus of LLW Forum Participants that free movement of low-level radioactive waste/materials among regional compacts and unaffiliated states to treatment or processing facilities or to brokers is in the national interest. Those compacts or states with restrictions on the import or export of low-level waste for treatment or processing are encouraged to take necessary actions to minimize impediments to the safe, equitable and efficient management of low-level radioactive waste across state and regional borders.**

Members of the Working Group are:

- Clark Bullard
  Chair, Central Midwest Interstate Low-Level Radioactive Waste Commission

- William Dornsife
  Chief, Division of Nuclear Safety, Bureau of Radiation Protection,
  Pennsylvania Department of Environmental Resources

- Jay Dunkleberger
  Technical Director, New York Low-Level Radioactive Waste Siting Commission

- Mike Mobley
  Commissioner, Southeast Low-Level Radioactive Waste Compact Commission
  (Director, Division of Radiological Health, Tennessee Department of Health and Environment)

The Staff Coordinator for the Working Group is

- Lori Tripoli, Staff Associate, Afton Associates, Inc.

In July 1989, the Forum requested that the Working Group:

- examine user practices for classifying shipments of items to processing facilities as radioactive materials or low-level radioactive waste,
- identify problems associated with these practices, and
- propose guidelines for users to follow in classifying shipments of materials/waste.

The Working Group recognizes that the various states and compact commissions have differing authorities and considerable latitude for defining when a material becomes a waste. On the one hand, diverse and conflicting criteria could lead to interregional conflicts and "orphan waste", while, on the other hand, adherence to voluntary consensus guidelines could unambiguously define the point of generation and hence the site of eventual disposal.

To facilitate interstate commerce in waste treatment and processing (between the point of generation and disposal), preliminary findings, recommendations, and proposed guidelines for classifying shipments were presented in an October 1989 paper entitled "Final Report, Material vs. Waste Working Group".

At the request of the Forum, the paper was subsequently circulated for comments to:

- the Conference of Radiation Control Program Directors' E-5 Committee on Low-Level Radioactive Waste,
- the Nuclear Waste Brokers and Processors Association, and
- Edison Electric Institute's Utility Nuclear Waste and Transportation (UWASTE) Program Low-Level Waste Working Group.

Comments from these groups were received in Spring 1990.

Because the responses from different members of the Nuclear Waste Brokers and Processors Association were not always in agreement, the Working Group met with members of the Association in May 1990 to discuss their concerns. A summary of the meeting, entitled "Final Report, Materials & Waste Working Group in conjunction with the National Association of Brokers", was issued on June 27, 1990.

After additional internal discussion among Working Group members, the proposed guidelines were revised significantly and discussed at LLW Forum meetings in January and April 1991. Following its April meeting, the Forum unanimously agreed that the Materials & Waste Working Group should distribute the most recent draft of its proposed guidelines to outside organizations for comment.

Attached are revised proposed guidelines for classification of shipments as either radioactive materials or low-level radioactive waste. The Working Group's proposed approach focuses on the radioactive content of an item, which is the hazardous component of a shipment. The nonradioactive portion of the shipment may be decontaminated and returned to the shipper, re-used by others, or free-released; it is not the focus of the proposed guidelines. States and compact commissions are primarily interested in tracking the radioactive component to ensure that it is disposed in the appropriate facility. In this respect, the current proposal differs considerably from those considered earlier by the Working Group. It is felt to be simpler, more consistent, and more workable. We appreciate your taking the time to offer your comments.

PURPOSE

The guidelines are intended to assist users in more accurately and consistently classifying shipments of radioactive items to collecting or processing facilities. The consistent classification of materials and waste will become increasingly important as import and export restrictions on low-level radioactive waste are instituted by states and compacts. Uniform guidelines are necessary because states and compacts may be able to exercise import and export controls over low-level radioactive waste only, not radioactive materials.

Classification is also necessary to:

- encourage consistent and adequate tracking of shipments of radioactive items,
- assure that waste generated in a state/compact is disposed within that state/compact, and
- maintain public confidence by ensuring that different sets of rules do not apply to seemingly similar shipments.

This proposal is an effort to achieve a voluntary consensus among states and compacts so that federal regulations will be unnecessary. It is not an attempt to develop mandatory rules and regulations.

GUIDELINES

A shipment of radioactive items should be classified as low-level radioactive waste if the radioactive content (curies) is being shipped or will be shipped subsequently either for disposal to a low-level radioactive waste disposal facility or for incineration. Otherwise, the shipment should be classified as radioactive materials.

APPLICABILITY

The guidelines do apply when radioactive items are being shipped.

The guidelines do not apply when radioactive items are held on site, at the point of generation, for storage.

The guidelines do not apply to shipments by a single licensee that are within an unaffiliated state or a compact region. However, if shipments between different facilities of a single licensee cross the boundaries of an unaffiliated state or a compact region, the shipments should be evaluated on a case-by-case basis. An example would be a shipment across state or compact region lines between two branches of a federal agency that has only one license for the entire agency.

Classifications of items not listed on the accompanying chart of classification categories should be determined by applying the above guidelines.

Note: Processing of radioactive items can yield residual waste.

Residual waste is low-level radioactive waste resulting from processing. Examples of residual waste include filters, sand and solvents used in decontaminating items.

Residual waste should be considered to be the processor's waste if it cannot be easily separated into distinct batches for shipment back to the waste generator (unaffiliated state or compact of origin).

If waste can be easily separated by direct collection such as batch processing or other direct means, it should be attributed to the region of origin.

APPLYING THE GUIDELINES TO CLASSIFICATION CATEGORIES

Low-Level Radioactive Waste	Radioactive Materials
Radioactive items sent* for disposal at a low-level radioactive waste disposal facility	Radioactive items that are useful
Radioactive items returned* to the manufacturer for shipment for disposal at a low-level radioactive waste disposal facility	Radioactive items returned* to the manufacturer for re-use
Radioactive items sent* for storage pending disposal at a low-level radioactive waste disposal facility**	Radioactive items sent* for storage for decay
Radioactive items sent* for incineration only***	
Radioactive items sent* for use as fuel	
Radioactive items sent* for compaction or supercompaction***	
Radioactive items sent* for sorting/ separating***	
Radioactive items sent* to decontamination facilities***	

* directly or through brokers

** The applicability of federal and state manifesting requirements may vary.

*** Items sent for this purpose yield residual waste.

APPLYING THE GUIDELINES: EXAMPLES

The examples given below are intended to explain the guidelines and are not intended to be comprehensive.

Low-Level Radioactive Waste	Radioactive Materials
Radioactive items sent for disposal at a low-level radioactive waste disposal facility • *packaging containers that cannot be re-used* • *packing items (vermiculite, dirt, sand)* • *contaminated paper, fabric, plastic, wood, metal, radiopharmaceuticals [1] and other items to be discarded*	Radioactive items that are useful • *re-usable containers (Sea-Lands)*
Radioactive items returned to the manufacturer for shipment for disposal at a low-level radioactive waste disposal facility • *used sealed sources [2] that the manufacturer will send for disposal [3]*	Radioactive items returned to the manufacturer for re-use[3]
Radioactive items sent for storage pending disposal at a low-level radioactive waste disposal facility	Radioactive items sent for storage for decay • *used radiopharmaceuticals returned to the distributor [1]*
Radioactive items sent for incineration only	
Radioactive items sent for use as fuel • *scintillation fluids* • *used oil*	
Radioactive items sent for compaction or supercompaction	
Radioactive items sent for sorting/separating	
Radioactive items sent to decontamination facilities • *nuclear laundry* • *items requiring sandblasting or abrasion* • *items requiring dipping/cleaning with solvents*	

[1] A number of radiopharmacies, hospitals, and other medical facilities have both radiopharmaceuticals and sealed sources on the premises. In the proposed guidelines, "used radiopharmaceuticals" refers to radionuclides, or their containers, that are used for diagnostic or therapeutic applications. The phrase does not refer to calibration units or other devices containing radioactive sources. Some regions may require that used radiopharmaceuticals be tracked as low-level radioactive waste using a waste export permit.

[2] The term "sealed sources" refers to radioactive items that are encapsulated inside a rupture-resistant metal or synthetic housing.

[3] Used sealed sources should be classified as low-level radioactive waste unless the generator certifies that the used sealed source will be re-used by the manufacturer.

INS INTERSTATE NUCLEAR SERVICES
A DIVISION OF UNIFIRST CORPORATION

June 11, 1991

Mr. Ken Weaver
Radiation Control Division
Department of Health
4210 East 11th Avenue
Denver, Colorado 80220

Dear Mr. Weaver,

I am writing to you in regard to your position as Chair of the Committee on Low Level Radioactive Waste (E-5) with the Conference of Radiation Control Program Directors.

I have recently been informed that your committee was asked to comment on the proposed guidelines for classifying shipments of radioactive materials and low-level radioactive waste by the Low-Level Radioactive Waste Forum (LLRWF).

I have been actively following this issue through Mike Mobley and others involved with the LLRWF. Interstate Nuclear Services supports the effort to establish a consistent, nationwide classification and accountability system. However, the proposed guidelines may serve to force fit certain radioactive materials into the radioactive waste category. As addressed in the enclosed position paper, we believe that protective clothing is one such material. The position paper was presented to members of the Forum working group in April of this year. We would appreciate your committee's consideration of our views, views that we believe represent the vast majority of nuclear power plants and other users of our services.

INS is not trying to beat the system. We believe that we can meet all of the objectives of the proposed guidelines, including that of accurate accountability without being put into the waste class. Clearly residual waste, (sludges, filters, etc.) which represent a very small fraction of our shipments, is and always be treated as radioactive waste. Laundered garments, to borrow words from the proposed guidelines are useful and reusable hence are, "materials".

We appreciate the E-5 consideration of this issue. If you have any additional questions, please contact me at the number below.

Sincerely,

Michael J. Bovino, CHP
Manager, Health Physics and Engineering

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INTERSTATE NUCLEAR SERVICES
A DIVISION OF UNIFIRST CORPORATION

April 15, 1991

To: Members of the LLW Forum Materials & Waste Working Group

Dear Sirs,

Interstate Nuclear Services Corporation, the largest nuclear launderer in the U.S., is deeply concerned about a January 17, 1991 LLW Forum proposal to reclassify radioactive laundry shipments as radioactive waste shipments. It is our position - a position substantially shared by our customers - that laundry shipments do not at any time constitute radioactive waste shipments. As reusable laundry represents one of the most significant waste avoidance practices in the U.S., any artificial impediment in accounting for and transporting laundry would be counterproductive to the national objective of reducing radioactive waste burial. While we understand some of the Forum's concerns regarding intercompact shipment of laundry, we offer the following position as a perspective into the potential impact of the proposed reclassification.

1) Launderable protective garments are a useful, reusable commodity that minimizes radioactive waste generation. Most of the garments received at our thirteen plants are laundered and are returned with a large portion of the of the radioactive materials that they were delivered with. In addition, tape, trash and worn-out garments are sent back to the originator. As an estimate, over 90% of the activity that is shipped to us is sent back to the point of origin. DAW that is produced as a function of the laundry process is, and will be treated as radioactive waste and is accounted for by the laundry in making shipments to waste processors or burial facilities. Clearly, reusable laundry is a radioactive item that is useful and is being returned to the user for reuse. Unlike radioactive waste processors, garments sent to a laundry are not considered waste by the shipper when shipped. In fact, the opposite is true. The purpose of the shipment is to avoid to the maximum extent possible the creation of waste. In examining the examples given in the January 17 memorandum, every item described as, "Low-Level Radioactive Waste", EXCEPT LAUNDRY has been deemed waste by the generator at the time of shipment, and is merely in the process of disposal. Laundry is in the process of reuse, not disposal, and is therefore a "radioactive material", not waste.

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2) The amount of radioactive waste produced by laundering is relatively small compared to other radwaste generating processes. DAW shipped from all of our locations last year nationwide amounted to less than 2500 cubic feet after volume reduction, with a total activity of less than three curies. Compared to the 1,628,000 cubic feet of LLRW containing 867,000 curies of activity disposed of nationally[1], it is evident that INS' contribution represents less than 0.2 percent of the volume and 0.00035 percent of the activity.

3) We believe that classifying laundry as radioactive waste would cause an inordinate amount of paperwork and could serve to limit intercompact transport. This limit could cause a severe impact on the nuclear industry as most of the powerplants, shipyards and other users do not have the resources or desire to launder their own garments and they would not be as effective as a professional launderer. Nuclear laundries such as INS provide a cost-effective means of reusing an essential product while keeping radioactive waste generation to a minimum. If for some reason intercompact transport of garments was denied because of the new classification, many companies currently using reusable garments may be forced to use disposable garments. This would create an intolerable restraint on interstate transport, and likely increase the amount of waste generated.

The trans-shipment of contaminated laundry to and from the laundry facility presents several difficult, if not inequitable problems in allocating the quantity of radioactive isotopes contained in the laundry facilities' waste stream:

a) INS adds several inert wastewater treatment agents to assist in solids removal from our waste stream. This amounts to approximately five percent of the total volume generated. It is therefore unfair to allocate this fraction back to a customer.

b) It is not possible to shut down processes to clean out the entire wastewater and air filtration treatment systems between each customer. To do so would not be ALARA. It would also be extremely costly and would generate more waste.

c) The common method of estimating nuclide concentrations in an LSA shipment is implicitly conservative. These methods typically use powerplant coolant radionuclide inventory as the source term. Isotopic activity is assigned based on contact and one meter dose rates of a shipping container. This approach is designed to be conservative as the geometry of any container, particularly a 96 cubic foot box randomly filled with laundry, does not lend itself to an accurate activity estimation. Nationwide, a wide variance in activity estimates and isotopic percentages has been observed. Because of this conservatism, our customers may be penalized for activity shipped that does not actually exist.

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[1]1989 data from the "Radioactive Exchange" publication.

d) If laundry were to be classed as radioactive waste, we suspect that radioactive material inventories may be elevated randomly due to inadequate assessment practices. Because laundry items are reusable and do contain residual radioactivity, it is possible that accounting methods will tend to overestimate activity in shipments. It would be extremely difficult to keep a "balance sheet" to track before and after activities on each laundry garment. Hence, radwaste shipping papers may "create" activity as the laundry is not actually disposed of as is true waste.

If it is necessary to track the origin and quantities of radioactive materials for possible allocation of the amount of waste generated by each customer, we are confident that we can design a fair system. INS maintains accurate records of the quantity and type of laundry processed for each customer. We could work to integrate each factor into a system that would divide the activity of rad waste generated at INS by the quantity of the laundry processed for each customer. While there are variables to be considered, it would probably be the most equitable method available. Please note however that the wastes that would be tracked would be from residual processes produced as a result of laundering, and do not represent the laundry itself.

INS is dedicated to providing a first-class service while reducing the nation's production of radioactive waste. We are confident that Forum members will carefully consider the positions raised in this paper and we look forward to an equitable resolution in future efforts to develop a uniform classification system.

AD33-1
PDR

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 2 6 1991

Ms. Lori Tripoli
c/o Afton Associates, Inc.
403 East Capitol Street
Washington, DC 20003

Dear Ms. Tripoli:

In response to your request, I am providing consolidated U. S. Nuclear Regulatory Commission (NRC) staff comments on the "Proposed Guidelines for Classifying Shipments of Radioactive Materials and Low-Level Radioactive Waste", prepared by the Materials and Waste Working Group of the Low-Level Radioactive Waste Forum. In general, we agree with the example differentiations given in the guidelines between low-level radioactive waste and radioactive materials. However, we believe that, by explicitly defining at what point the guidelines should be employed, unnecessary paperwork may be avoided without compromising the desired waste tracking function.

As the guidelines suggest, the following should be manifested as low-level radioactive waste: 1. radioactive items transported for disposal at a low-level radioactive waste disposal facility; 2. radioactive items transported for storage pending disposal at a low-level waste disposal facility; and 3. radioactive items transported for compaction, supercompaction, or other processing prior to being transported to a low-level waste disposal facility. In these three cases, it is evident that no further use of these items is foreseen.

On the other hand, we believe that 1. radioactive items returned to the manufacturer; 2. radioactive items sent for sorting or separating; and 3. radioactive items sent to a decontamination facility should not initially be manifested as radioactive waste. In these cases, the manufacturer, sorter/separator, or decontamination facility should manifest any waste subsequently transported for disposal, and except for residual waste, should attribute this waste to the licensee who originally transported the radioactive items. Under this concept, tracking of waste is achieved without the need to classify reusable or recyclable items as waste.

Finally, for radioactive items transported for incineration only or for use as combustible fuel, we believe waste tracking can be achieved either through licensee reports or through the manifesting of these items as radioactive waste. Since no return of radioactive material for disposal is anticipated, the first alternative may minimize paperwork without any significant loss in tracking capability.

Our other comments are more editorial in nature. First, we would suggest using the terminology "combustible fuel" for used oil and scintillation fluids. We also believe some added discussion may be needed in describing shipments between different facilities of a single licensee. We have presumed that only the destination of the waste is being considered and that concern regarding the States transited is not being made an issue.

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In closing, I would point out that NRC's draft rulemaking on the documentation and reporting of low-level waste shipment manifest information follows the principles outlined by our comments.

We appreciate the opportunity you have provided to comment on the proposed guidelines. If you have any questions, please call me at (301) 492-0553.

Sincerely,

(SIGNED) PAUL H. LOHAUS

Paul Lohaus, Chief
Low-Level Waste Management Branch
Division of Low-Level Waste Management
and Decommission
Office of Nuclear Material Safety
and Safeguards

cc: LLW Forum Materials and
Waste Working Group

bcc: J. Cunningham, NRR
C. Trottier, NMSS
F. Combs, GPA/SP

Distribution: LLWD 91-138

Central File#	NMSS r/f	LLDR r/f	BLahs	JAustin	PLohaus
JSurmeier	ETen Eyck	RBangart	LLWM r/f		
MWeber	BLahs				

PDR YES X NO ___ Category: Proprietary ___ or CF Only ___
ACNW YES X NO ___

SUBJECT ABSTRACT: FORUM GUIDELINES ON MATERIAL VS. WASTE

OFC	:LLDR*	:LLDR*	:LLDR*	:LLWM	:
NAME	:BLahs/cv	:MWeber	:JAustin	:PLohaus	: OFFICIAL RECORD COPY
DATE	:07/24/91	:07/24/91	:07/25/91	:7/26/91	: "LLWD 91-138"