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I. PURPOSE

The purpose of this procedure is to provide direction for the off-site shipments of nonhazardous materials, hazardous materials, hazardous wastes, and classified shipments.

For radioactive materials shipments, see TPM-R-1, "Radioactive Materials & Mixed Wastes."

This procedure does not apply to materials sent via U.S. Mail.

II. APPLIES TO

This procedure applies to all personnel in the Transportation & Packaging Management (TPM) Organization.

For on-site movements refer to ORNL/M/808, "ORNL On-Site Transportation Safety Document."

This document revises TPM-TFR-02, Revision 5 "Shipping."

The following documents have been incorporated into this procedure as of Revision 3:

LMTPM-H-1, Revision 2, "Hazardous and Nonhazardous Shipments"
TPM-H-2, Revision 2, "Hazardous Wastes Shipments"
LMTPM-S-2, Revision 0, "Shipment of Classified Materials via 'Exclusive Use' Common Carriers"
LMTPM-TRF-04, Revision 0, "Routing"

III. OTHER DOCUMENTS NEEDED

- Air Waybill
- Bill of Lading
- BJCF-2109, Waste Item Description
- Canadian Customs Invoice for Shipments to Canada (exceeding $1600 Canadian)
- DOE F4420.2, "Personal Property Loan Agreement"
- Facsimile Invoice
- Form 7525V, Shipper's Export Declaration (exceeding $2500 U.S.)
- ORNL-131, Material Clearance Certification
- ORNL-19, Shipping Order
- ORNL-28-IDO, Shipping Order (Used by the Isotope Business Office)
- Shipper's Declaration for Dangerous Goods
- TPM-R-004, Transport Vehicle and Cask HP Monitoring Checklist (Exclusive Use)
- TPM-S-001, Shipping Paper/Transportation Checklist
- TX-5853, Stable Isotope Shipping Request (Used by the Isotope Business Office)
- UCN-28, Shipping Order Register
- Uniform Hazardous Waste Manifest

IV. RESPONSIBILITIES

A. Shipment of Nonhazardous Materials

1. Materiel Assistant

(a) Obtains ORNL-19, Shipping Order, from customer for all shipments, except drop boxes for express mail shipments of unclassified documents, software, printed matter, manifested waste shipments prepared by Laboratory Wastes Services (LWS), and brown/yellow-tagged material which requires an ORNL-28. **R(6, 7, 8)**

NOTE: Procurement and Material Services are responsible for preparing ORNL-19, Shipping Order, for the movement of all materials associated with a purchase order including material sent out for processing or fabrication, material furnished by the company for work being done outside, damaged, rejected, or warranty materials.

(b) Upon receipt of the Shipping Order, verifies that the form includes the following required information:

- For material brought directly to Shipping by the customer, verifies, if applicable, that the ORNL-131, Material Clearance Certification (green tag) is present and that it was issued within ninety (90) days or that the section on the Shipping Order regarding uncontrolled release has been appropriately checked. **Note**: Printed matter does not require either. **R(7)**

NOTE 1: If brown or yellow tag is present, contact Transportation Specialist. R(8)

NOTE 2: If green-tagged material (e.g., urine samples) on Shipping Order, lists radioactive content, contact Transportation Specialist who will verify total activity for the consignment is less than 1,000 Bq or the specific activity of each radionuclide is less than 0.1 Bq/g. R(8)

- Material to be Shipped-Location

- Contact (Person) Name and Phone Number

- Date Issued

- Shipping Order Originated By and Phone Number

- Company/Addressee: Enter the company/addressee/consignee name and address, including consignee contact and phone number. Ensure a phone number is provided for all international shipments.

- Charge Number for all shipments **R(4)**

- Confirms the Export Classification Control Number (ECCN) which is mandatory for all international shipments. Exporters must enter the proper ECCN designation for international shipments. If unknown, contacts ORNL Export Control Office. **R(4)**

- In accordance with the SBMS Subject Area, "Export Control," screens the consignee's name and company via Export Control WebPage. Click on "Screening of US Government Registered End Users" <http://home.ornl.gov/divisions/contracts/contresp09a.html> and "Facilities and Restricted Party Screening." **R(7)**

- The List of Denied Persons (Bureau of Export Administration)

- The Entity List (Bureau of Export Administration) **R(4)**

- The List of Specifically Designated Nationals and Blocked Persons (Office of Foreign Assets Control) **R(4)**

- Know your Customer Screening List (Commerce) **R(4)**

- Notifies the ORNL Export Control Office, if consignee or company appears on any list or if information is incomplete,. **R(4)**

- Scans all ship orders for sensitive countries. **R(4)**

- Verifies the material meets the requirement for uncontrolled release in accordance with SBMS Subject Area: "Radiological Release of Material." **R(4, 7)**

- Requester Signature and Shipping Department Approval

(c) If any required information is incomplete, contacts the originator and completes the Shipping Order.

(d) Notifies Material Clerk to pick up items to be shipped from the field and deliver to Shipping Operations.

2. Materials Clerk

(a) Picks up items from field for shipment.

(b) Verifies, if applicable, that the ORNL-131, Material Clearance Certification (green tag) is present and that it was issued within ninety (90) days or that the section on the Shipping Order regarding uncontrolled release has been appropriately checked. **NOTE**: Printed matter does not require either **R(7)**

NOTE: ORNL-131 is not required for items that meet the requirements for unrestricted release per SBMS Subject Area: "Radiological Release of Material." **R(7)**

NOTE: Special communication should occur between the Materials Clerk and Materiels Assistants and/or Transportation Specialists to ensure fragile and/or expensive items are handled and packaged appropriately. **R(6)**

(c) In conjunction with Transportation Specialist or Materiel Assistant, determines the packaging required for the type of shipment.

NOTE: Materials Clerk notifies Materiel Assistant or Transportation Specialist for items that require special handling, (i.e., heavy shipments requiring riggers.)

(d) Determines number of packages, weighs packages, and provides this information to the Materiel Assistant for entry on the Shipping Order.

3. Materiel Assistant

(a) Assigns a Shipping Order number and records the number and other appropriate information in the Shipping Order Register.

NOTE 1: Refers hazardous, potentially hazardous, or problems, including export license questions for international shipments other than documents or media to Transportation Specialist.

NOTE 2: Materiel Assistant may sign a Shipping Order that consists of shipment of items known not to be hazardous.

NOTE 3: May select mode of transportation and carrier using the Automated Transportation Management System (ATMS) and may prepare a Bill of Lading.

NOTE 4: Motor carrier shipment exceptions are permitted if justification is documented on Shipping Order.

(b) Prepares small parcel service shipping labels and airway bills and releases shipment to carrier.

(c) Enters required information in ATMS for each shipment.

(d) Performs distribution of shipping orders to Accounts Payable, Property Management, Procurement, and customers, upon request.

(e) Reviews international airbill generated from drop boxes for license exception/ ECCN designation. **R(4)**

(f) Reviews all international airbills generated from drop boxes for sensitive countries and appropriate license exception/ECCN designation. If sensitive country is detected or if information is incomplete, notifies the ORNL Export Control Office. **R(4)**

4. Transportation Specialist

(a) Selects carrier through ATMS for all LTL shipments and selects truckload and dedicated shipments through carrier negotiations, using carriers approved via the DOE Motor Carrier Evaluation Program (MCEP) when practical. (See Exhibit A, Guidance for the Transportation Routing Process.) **R(5, 7)**

(b) Prepares Bill of Lading, airway bill, and applicable documentation, schedules carrier, and releases the shipment. **R(4)**

WHEN truckloads are being shipped by normal service or exclusive use of vehicle, **THEN** performs a visual inspection of the load and vehicles for obvious potential problems (i.e., loose bands or webbing, straps attached to the rub rail, door latches broken, light lenses broken, etc.) **R(4)**

(c) Ensures that the documentation is complete and returned to the Materiel Assistant for filing and distribution.

(d) Ensures incoming material to Shipping is checked to determine if regulated as a hazardous material for transport. R(8)

(e) Ensures all brown-tagged/yellow-tagged packages that are not DOT regulated shall have attached with packing lists or contained within, the appropriate non-DOT RAD "insert." (See Exhibits B and C.) R(8)

E. Shipment of Hazardous Materials and Wastes

1. Transportation Specialist

(a) Assigns ship order number from hazardous materials log.

NOTE: For hazardous wastes shipments, LWS designee will perform the DOT classification and will prepare a draft Hazardous Waste Manifest. TPM will review the Hazardous Waste Manifest and provide guidance. **R(4, 5, 7)**

(b) Verifies that adequate information (e.g., MSDS, previous hazard information and test data, manufacturer's literature/data, waste characterization documentation, BJCF-2109, etc.) is provided with ORNL-19, Shipping Order, as applicable, and performs or confirms initial DOT classification. **R(7)**

(c) If shipping explosives, then sends copy of Shipping Order to Packaging Operations for determination or verification of Department of Transportation classification.

(d) Prepares shipping documents except for hazardous waste shipments (e.g., Bills of Lading, Shipper's Export Declaration, Airway Bills, etc.) and ensures proper packaging, markings, labeling, and placarding, if required.

Packaging Operations for stable isotope shipments in the ORNL Isotope Production Organization are performed by trained staff of the Isotope Products and Service Groups via TX-5853 Stable Isotopes Shipping Request. (See TPM-R-1, "Radioactive Materials & Mixed Wastes")

(e) Completes TPM-S-001, Shipping Papers/Transportation Checklist. If shipping by air, also completes the International Air Transport Association (IATA) checklist except for Dangerous Goods in Excepted Quantities (DGEQ). **R(7)**

(f) Selects and/or approves qualified LTL carrier from ATMS. (See Exhibit A, Guidance for the Transportation Routing Process.) **R(5, 7)**

If dedicated truck is required, carrier is selected and/or approved based on equipment needed, security requirements, costs, etc. (See Exhibit A.) **R(7)**

NOTE 1: For carriers that service ORNL on a routine basis, (i.e., UPS, Federal Express, Airborne Express) their assigned drivers will be issued permanent badges. The appropriate information relating to the driver and company will be entered into ORNL Nonemployee Processing (NEP) System for badge processing. **R(4)**

NOTE 2: For infrequent carriers and substitute drivers for frequent carriers, designated personnel in TPM will contact Security at the appropriate portal on a case-by-case basis to notify them of the carrier's arrival/entry for requested pick ups. These carriers may or may not have documentation proving their need for entry to the ORNL site. **R(4)**

(g) Obtains peer review of shipping papers, packaging, labeling, etc.
Note: Peer review of waste shipments only includes review of TPM-S-001 and the Uniform Hazardous Waste Manifest. The review does not include checking for DOT classification, PSN, packing group, RQs, waste codes, etc. **R(7)**

(h) If shipment is on the routine list established by TPM, then verifies final shipping papers and packaging determinations, ensures carrier compliance, and consigns shipment to carrier.

NOTE: Some hazardous materials are routinely shipped from ORNL. Because the DOT hazard class packaging, marking, labeling, and placarding requirements are consistent for each shipment, it is not required that shipments of these materials have a compliance review. This exception is granted only if materials have previously been reviewed and approved through the described process for hazardous materials. A list of the approved shipments, called the "routine list" is maintained by the Transportation Safety Compliance (TSC) Manager who will review, update, and distribute to TPM personnel on an annual basis or as changes to the list constitute revision. **R(4)**

(i). If shipment is not on the routine list, takes shipping documentation to the designated Compliance Reviewer.

(j) Upon approval by Compliance Reviewer, verifies carrier qualifications, schedules and/or approves carrier, verifies drivers' qualifications, and consigns shipment to carrier. **R(7)**

NOTE: LWS signs all Hazardous Waste Manifests, and TPM will qualify the carrier and inspect the truck/load prior to shipment. **R(4)**

(k) Check placards, labels, markings, and securement of packages. **R(4)**

(l) Transmits a copy (via facsimile or handcarry) of the following information to the Laboratory Shift Superintendent (LSS) as soon as practicable after shipment(s) is picked up by the carrier.

For radioactive shipments requiring shipping papers:
- A copy of the shipping paper with the technical contact name,
- a copy of the Emergency Response Guide (ERG), and
- a copy of the ORNL-28.

For nonradioative hazardous shipments requiring shipping papers:
- a copy of the shipping paper with the technical contact name and the appropriate RECID or CAS numbers for each hazardous material,
- a copy of the ERG, and
- a copy of the ORNL-19.

NOTE: LSS notification for RCRA wastes materials requiring a Uniform Hazardous Waste Manifest will be handled by LWS. **R(7)**

(m) Retains copy of shipping papers for file.

(n) Enters required information in ATMS for each shipment unless information is accounted for by other methods. **R(4)**

NOTE: LWS sends copy of Hazardous Waste Manifest to Science Application International Corporation (SAIC) for ATMS/Shipment Mobility Accountability Collection input. **R(4)**

(o) Performs distribution of shipping orders to Accounts Payable, Property Management, Procurement, and customers, if applicable.

2. TPM Manager

(a) Assigns the responsibility of compliance reviews to appropriate personnel.

3. Designated Compliance Reviewer

(a) Performs regulatory compliance reviews, stamps or signs shipping documents indicating approval, and notifies Transportation Specialist of approval.

NOTE: If discrepancies exist, TSC manager will make final determination. **R(4)**

F. Shipment of Classified Materials

1. Classified Matter Protection and Control Officer (CMPC)

(a) If it is determined that a classified shipment cannot be transported by Mail Services, the CMPC contacts Packaging Operations for instructions on packaging any materials requiring special packaging or crafting needs.

(b) Prepares a Shipping Order that includes a statement that the material is classified providing the highest classification level and category of the material being shipped.

(c) Contacts TPM to coordinate shipment.

2. Transportation Specialist

(a) Assigns a Shipping Order number and records the number and other appropriate information in the Shipping Order Register.

(b) Secures an approved carrier at the appropriate classification level.

(c) Coordinates the movement of the classified material with the arrival time of the carrier at the ORNL Shipping facility.

(d) Faxes to the CMPC officer a receipt/notification from consignee stating the arrival date of the material at the appropriate designation.

V. RECORDS

Records are generated and maintained in accordance with established company records management practices and approved records inventory and disposition schedules.

1. Shipping Operations

The Materiel Assistant is responsible for the retention and disposition of the following files:

ORNL-19, Shipping Order
- Original - Shipping Order file
- Copy - Accounts Payable, if applicable
- Copy - Procurement, if applicable
- Copy – Property Management, if applicable
- Copy – Customer, upon request

Current files of every shipping order issued are maintained in hard copy format for at least three (3) years.

VI. REFERENCES

1. Title 40, Code of Federal Regulations, Parts 260- 268, 761

2. Title 49, Code of Federal Regulations, Parts 106 – 180, “Hazardous Materials”

3. Title 49, Code of Federal Regulations, Parts 325 – 399, “Federal Motor Carrier Safety Regulations”

4. Title 15, Code of Federal Regulations, Parts 768 – 799, “Commerce and Foreign Trade”

5. International Air Transportation Association Dangerous Goods Regulations (Latest Edition)

6. International Civil Aviation Organization Technical Instructions (Latest Edition)

7. North American Emergency Response Guide Book (Latest Edition)

8. ORNL-PT-001, "ORNL Packaging And Off-Site Transportation Of Hazardous/Nonhazardous Materials And Waste Shipments"

9. ORNL-RP-420, "Release of Material"

10. ORNL-TS-001, "ORNL Motor Carrier Safety Compliance"

11. ORNL-CR-008, "Export Control For Shipping, Carrying, Or Mailing ORNL Commodities and Information" **R(4)**

12. ORNL-LPD-SD-11, "ORNL Classified Matter Protection and Control Manual"

13. ORNL Work Smart Standards

Prepared by: TPM Organization

Points of Contact: J. H. Shelton, 576-6401

Approved by: [Signature on File Date [9/17/04]
J. H. Shelton, Manager
Transportation and Packaging Management

Guidance for the Transportation Routing Process

TPM is responsible for determining the most cost efficient, unilateral offers for discounts made by carriers and communicating these offers to the appropriate parties (e.g., Procurement, LWS). The DOE-ORO Traffic manager is responsible for reviewing contracts and tenders. **R(7)**

The TPM Transportation Specialist determines mode of transport (i.e., surface or air.) The Transportation Specialist can use ATMS to choose the carrier for air shipments, less-than-truckload (LTL) shipments, and small parcels shipments. The Specialist can also conduct direct negotiations with carriers for the most economical rate for truckloads, "special needs" transport, premium transport, and exclusive-use transport. **R(7)**

Selecting and Contracting with Carriers.

Selection of carriers is based on UT-Battelle, LLC, DOT, and DOE policy, which require TPM consideration of safety, dependability, expeditious services, reasonable rates, adherence to security requirements, carrier DOT hazardous materials registration, and operating authority. These considerations are evaluated by TPM in both day-to-day routing of inbound and outbound shipments from existing available common carrier service and negotiation/contracting for programmatic service requirements on a long-term basis. **R(6)**

TPM performs the following actions in terms of both service requirements and economics.

1. Negotiates with carriers and uses U.S. DOE approved carriers (ATMS and MCEP) as far as practicable. TPM may investigate/qualify/approve a carrier if warranted. **R(6, 7)**

2. Takes advantage of discount programs, when available.

3. Utilizes government tenders, if possible.

4. Develops contract quotation specifications for established bid action by Procurement, when applicable.

Also for hazardous materials shipments: **R(6)**

5. Verifies carrier's Hazardous Materials Certificate per 49 CFR, Part 107, Subpart G.

6. Verifies carrier's safety ratings, if applicable.

7. Verifies tender authority to transport the particular hazardous materials being shipped

8. Verifies carrier's insurance policy for compliance with Public Liability Limits per 49 CFR, Part 387.9.

NOTE: When using carriers approved by DOE MCEP, Items 5 – 8 listed above are already verified. **R(7)**

Guidance for the Transportation Routing Process

Selecting the Transportation Service

For inbound shipments, the following conditions require TPM's assistance.

- Motor freight > 10,000 lb
- Motor freight < 10,000 lb of low density commodities (drums, filter, etc.)
- Rail freight
- Expedited services (air or motor)
- Import shipments
- Commercial freight requiring security arrangements
- Hazardous materials
- Rare and precious metals
- Unique commodities
- Air freight as needed
- Oversized or overweight commodities
- High value materials
- Exclusive-use shipments

Handling Import Shipments and Brokerage Controls

Formal entries, informal entries, and temporary importations are required for all imports. UT-Battelle has a surety bond of $50,000 for entry of all foreign procurements and imports. Under certain circumstances, entry can be made duty free.

Knoxville, Tennessee, is designated as the "Port of Entry" for all customs clearances. UT-Battelle's Customs Broker has Power of Attorney to sign customs entries and pays all U.S. Customs duties and fees in the names of the Company. The Company reimburses the brokerage firm for the customs duty and for services performed in accordance with the provisions of the service contract. All import shipments should be consigned to UT Battelle, LLC, c/o U.S. Customs with a notation that identifies the appropriate Customs Broker to notify upon arrival in Knoxville, Tennessee.

TPM maintains entry records and ensures that all applicable invoices and duties are reviewed for discrepancies. If invoices are determined to be correct, the invoice is forwarded to Accounts Payable for payment to the appropriate Customs Broker.

Procurement and field personnel are responsible for consulting with TPM regarding all import shipments to ensure that necessary importation procedures are followed and that the company's Customs Broker is notified.

TPM is responsible for contacting Procurement whenever the import/export broker's service contract is about to expire. This is to allow for a competitive bid process between the two local brokerage firms located at the Knoxville Airport.

Guidance for the Transportation Routing Process

Handling Export Shipments and Brokerage Contracts

All shippers of material from UT Battelle facilities must consult with ORNL's Export Compliance Manager prior to submitting any shipments to TPM. (See SMBS "Export Control.") This is to ensure that any Export Licenses issues are addressed and the necessary applications are made to the U.S. Department of Commerce. If an export license is needed and obtained, it must be submitted to TPM along with other appropriate paperwork for shipment.

TPM is responsible for preparation of all export papers and freight routings, and arranges for all papers, routings, pick ups, and any other operational requirements for all export shipments.

E. Insuring Shipments

Insuring shipments at ORNL must follow strict DOE guidelines. If shipment is government-owned material using government funds to pay transport costs, insurance is an unallowable cost. Insurance can be purchased when nongovernment funds are involved.

Exhibit B

CAUTION

SUSPECT RADIOACTIVE MATERIAL

The contents in this package do not meet the U.S. Department of Transportation's definition for ***radioactive material*** for the purpose of shipping; however, the contents may meet the U.S. Department of Energy's definition for ***radioactive material***.

All handlers of this package should be aware that the inner contents may be radioactive, and appropriate precautions should be taken prior to opening this package.

CAUTION

SUSPECT RADIOACTIVE MATERIAL

Exhibit C

CAUTION

RADIOACTIVE MATERIAL

The contents in this package do not meet the U.S. Department of Transportation's definition for ***radioactive material*** for the purpose of shipping; however, the contents do meet the U. S. Department of Energy's definition for ***radioactive material***.

All handlers of this package should be aware that the inner contents are radioactive, and appropriate precautions should be taken prior to opening this package.

CAUTION

RADIOACTIVE MATERIAL