STANDARD OPERATING PROCEDURES

DIVISION OF COMPARATIVE MEDICINE
UNIVERSITY OF SOUTH FLORIDA

TITLE:	**Transport, Receipt and Delivery of Material Used for Re-derivation, Cryopreservation or Cryorecovery**
SCOPE:	Animal Care and Mouse Models Core personnel
RESPONSIBILITY:	Facility Manager, Supervisor and Technical Staff
PURPOSE:	To Outline the Proper Procedures for transport, receipt and delivery of materials for the Mouse Models Core.

I. PURPOSE

1. This SOP outlines the proper procedures to be followed to receive or ship samples offsite using liquid nitrogen (LN_2) transport dry shippers.

II. RESPONSIBILITY

1. It is the responsibility of the Mouse Models Core Facility Manager and/or designee to notify Comparative Medicine Assistant Director in advance of all expected shipments to and from site.

2. It is the responsibility of the technical staff assigned to assist in these procedures to read, understand, and follow the procedures outlined below.

3. It is the responsibility of the technical staff assigned to be trained on the use and proper handling of LN_2 and storage vessels (i.e., dry shippers and bulk tanks).

III. GENERAL SAFETY PROCEDURES

1. **Proper PPE** must be used when working with LN_2. This includes safety glasses or face shield and insulated cryo gloves. Long handled forceps are used.

2. **Work in a well ventilated room** when handling LN_2 is required.

IV. MATERIAL TRANSPORT AND LOGISTICAL PROCEDURES

1. When the **Mouse Models Core** receives a request to import/export materials used for re-derivation, cryopreservation or cryorecovery, proper notification must be sent to Comparative Medicine **in advance** in the form of the following:
    a. Email anticipated material (i.e., ES cells, sperm, embryos) shipment manifest to be received or shipped and state desired shipping or receipt date of material. (Note: ideal time to receive or ship material is Tuesday or Wednesday morning, **except holidays**)
    b. Scan a copy of the **"Request to Receive Biological Materials from Another Institution"** (***CMDC #235)*** form to Comparative Medicine Assistant Director if

material will be **received** and complete required sections including signature of approval.

c. Scan a copy of the **"Request to Ship Biological Materials to Another Institution"** (***CMDC #236***) form to Comparative Medicine Assistant Director if material will be **sent** and complete required sections including signature of approval.
d. If using LIMS to approve requests, communicate correspondence to Comparative Medicine.

2. Once all paperwork has been received by Comparative Medicine, the Assistant Director or designee shall complete the following:
    a. **Schedule shipment** with appropriate courier (i.e., FED EX or World Courier)
        1. Print off all labels for shipment and return shipment.
    b. **Two days prior to shipment**, the dry shipper must be filled with LN_2 to allow the absorbent to be saturated with LN_2 to hold appropriate temperature.
        1. When filling LN_2, there will be nitrogen gas generated so add the liquid nitrogen SLOWLY.
        2. When the liquid reaches the neck of the dry shipper, it is recommended to stop filling
        3. Secure lid of dry shipper and set aside
    c. **The night before dry shipper is to be shipped out**, fill with additional LN_2 to compensate for any evaporation that may have occurred.
    d. **The day of ship out**, the remaining LN_2 is poured off into the bulk tank using the following precautions:
        1. Empty the dry shipper by pouring out the excess liquid back into the bulk tank very SLOWLY
        2. Repeat steps as needed until empty
    e. Add in the appropriate number of canisters/canes or storage racks for the recipient to the dry shipper.
    f. If frozen material will be exported by Mouse Models Core, the Core will be responsible for adding product to the dry shipper.
    g. **Close lid** and secure with zip ties.
    h. **Place the return shipment label** on the inside lid of the protective dry shipper cover in a plastic sheet protector and secure with tape.
    i. **Close the protective cover** and lock lid in place.
    j. **Place the shipment label** on container.

3. Once dry shipper is prepared for shipment, the Assistant Director or designee will send an email with the following to the recipient, Mouse Models Core, and to associated parties within Comparative Medicine:
    a. Scheduled shipment time
    b. Tracking number if applicable or Waybill information
    c. Contents within dry shipper

4. Once recipient has received dry shipper, an email notification must be sent to Comparative Medicine and the Mouse Models Core.
    a. If material will be placed inside of receiving dry shipper, the following must be completed:
        1. The recipient must charge the dry shipper with additional LN_2 and remove any excess liquid prior to placing material in dry shipper.

2. On the day of ship out, an email correspondence must be sent to the Mouse Models Core and Comparative Medicine with shipment information.
3. When shipment is sent, shipping and receiving department will be notified by Comparative Medicine of pending time sensitive shipment to arrive onsite.
4. Comparative Medicine personnel will locate dry shipper and bring to the Gas supply room (20051).
5. Mouse Models Core will be notified that shipment has arrived and Mouse Models Core will be responsible for handling the shipment contents intended location.
6. If empty dry shipper will be returned to Comparative Medicine, the dry shipper need not be filled.

Approved: **Date:**