

MELISSA



SHIPPING PROCEDURE



SHIPPING PROCEDURE TN 85.96

Prototype Shipping Documents

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APPROVAL

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CHANGE LOG

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1. Introduction

This technical note will outline the shipping procedures for the plant growth prototype chamber, under contract with the European Space Agency, as per University of Guelph shipping policies. Shipping will commence once final acceptance of the chamber has been verified by ESA at UoG site. Commercial air transport (Fedex Trade Networks) via KLM from Toronto, Ontario Canada through Amsterdam to Barcelona will be utilized. It is expected that total shipping time including disassembly, packaging, crating, shipping, unpacking and reassembly at the MPP will take approximately 4-6 weeks.

2. Conditioning of the deliverables

(e.g. drying, cleaning)

All HPC components will be inspected by UoG personnel prior to packaging to ensure identification labels are installed and recorded on an inventory list where required and items are clean and in good working order. Items will then be placed in appropriate shipping packages complete with desiccant where required, including shipping insulation (e.g., foam peanuts) and vacuumed sealed by Skid'R'Crate Industries Inc., a commercially licensed company hired through the UoGuelph.

3. Disassembly procedure

Once final verification and testing has been completed and accepted by ESA, the UoG will disassemble all sub-systems and package them according to standard UoG packaging requirements (e.g., in original boxes where available and/or equivalent type packages). Every effort will be made to ensure items are packaged with enough foam peanuts, plastic bubble wrap or paper/cardboard inserts, where appropriate, to survive the normal conditions and rigours of shipment. Boxes will be labelled and numbered (e.g., Lamp Loft, Box 1 of 9). Further, boxes will be categorised by subsystems for ease of recognition when unpacking and reassembly. A master inventory list will be maintained by UoGuelph and made available to ESA personnel and UAB MPP designated personnel once disassembly and packaging are complete. All major components will be tagged according to ESA PID requirements as submitted to UoGuelph by UAB MPP.

Angstrom Engineering Ltd. will be on site at UoG to complete the disassembly of the three major shell compartments. This will include the lamp lofts, airlocks, chamber units, air handling units and frames. All other disassembly procedures will be carried out by UoGuelph project personnel.

4. Shipment configuration and logistics

All crates, boxes etc will be skidded and secured by Skid 'R' Crate using government approved materials (e.g., approved lumber). Skids will then be placed in a metal shipping container meeting industry standards for international shipping. The container will then be picked up at UoGuelph site by FedEx Trade Networks and



transported to the Lester B. Pearson International Airport, Toronto, Ontario Canada. FedEx Trade Networks, under contract with the UoGuelph will handle air transportation arrangements and paperwork. UoGuelph will receive copies of all necessary documents and will make these copies available to ESA. Container will fly to UAB, Spain via KLM carrier through Amsterdam to Barcelona.

5. Unloading at final delivery point

To be arranged by UAB personnel.

6. Reassembly procedure

(e.g. who is doing what, steps, procedures to be followed....)

Covered under a separate contract.

7. Planning

It is expected to take approximately 2 weeks to disassemble and log, package and crate all chamber contents. Transit time from point of pick up (i.e., UoGuelph) to final destination is expected to take 5-15 days. We are unable to estimate any potential delays once the container reaches the Amsterdam terminal. It is the responsibility of UAB MPP personnel to work with their customs officials for prior notification of delivery to ensure smooth transit to the final destination of UAB via FedEx Trade Networks.

Un-crating and reassembly are to be covered under separate contract and thus cannot be expanded upon in this TN.

Addendum: contractual documents (shipping lists, shipping contract, insurance contract, conformity certificates)

With the exception of the shipping list of items, these documents will be supplied at time of shipment. The University cannot provide these documents at this time due to UoGuelph procurement and shipment procedures and policies.

Packing Company: University of Guelph, CESRF.

Crating Company: Skid 'R' Crate Industries Inc., 118 Healey Rd., Unit #2, Bolton, ON L7E 5B2 Toll Free 1-888-820-7543 Fax (905) 857-9515 Contact: Bruce Wheeler

Ground Transportation: FedEx Trade Networks Transport & Brokerage (Canada) Inc., 7075 Ordan Dr., Mississauga, Ontario L5T 1K6 Tel: 905-677-7371; Fax 905-677-1510. Contact: Marg Hyland.

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Air Transportation: KLM (Flight information TBA).

Insurance Company: