

Raytheon Polar Services Company
Instructions on Packaging and Shipping, 2000-2001
All Locations

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Instructions on Packaging and Shipping, 2000-2001

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United States Antarctic Program

INSTRUCTIONS ON PACKAGING AND SHIPPING

2000-2001



RAYTHEON POLAR SERVICES

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INSTRUCTIONS ON PACKAGING AND SHIPPING 2000-2001 Field Season

This booklet contains instructions for documenting, packaging, marking, and shipping of materials to and from all U.S. Antarctic stations and research vessels for the U.S. Antarctic Program (USAP). These instructions are published to assist USAP participants in preparing and forwarding their supplies and, equipment to, and later their equipment, data, and specimens from Antarctica in the most efficient manner. The logistics pipelines to Antarctica are some of the longest and more difficult cargo distribution routes in the world. The distance, the absence of multiple transportation modes, customs delays, the frequency of delivery, and the volume limitation all contribute to difficulties of on-time delivery of all the needed materials. The inset on page 2 illustrates the transportation routes to Antarctica. Because of these transportation difficulties, advance planning is necessary and critical to achieve timely delivery.

Your actions are the first of many in a long logistics pipeline. The improper documentation, packaging, labeling, or failure to meet the required delivery dates at Port Hueneme, CA, can result in material delivery delays. **These delays could seriously jeopardize the accomplishment of planned work.**

All cargo receives the normal and generally rough treatment characteristic of stevedoring operations. Cranes and forklifts are used to facilitate the loading and unloading of cargo onto surface vessels. Also, there is the loading/discharge operation through aircraft doors. To ensure its safe arrival, all science equipment should be properly packaged (see **Packing**). Boxes which contain delicate equipment should be packed with greater care and marked to indicate sensitivity of the contents to impact, temperature, moisture, etc.

All shipping costs for processing and transport, between point of origin and Port Hueneme, CA, will be charged against the Principal Investigator's grant. The contractor supports cargo shipping costs between Antarctica and the Continental United States (CONUS). If approved allowances must be exceeded, advance authorization is required from the NSF.

NATIONAL SCIENCE FOUNDATION OFFICE, PORT HUENEME, CALIFORNIA

Through contractual arrangements with Raytheon Polar Services Company (RPSC), the Port Hueneme Operations serves as the NSF Contractor's Representative at Port Hueneme, California. USAP cargo that is sent to Antarctica is processed at Port Hueneme where it is entered into the USAP logistics system. The NSF Contractor Representative (also known as RPSC Manager, Port Hueneme Operations), is the point of contact for all matters related to the processing of cargo in the U.S. Special programs which are not covered by these instructions must be coordinated directly with the NSF Contractor Representative, Port Hueneme at the following addresses:

Freight Address: NSF Contractor Representative
 U.S. Naval Construction Battalion Center
 Building 471, North End
 Port Hueneme, California 93043

Telephone: 805-985-6851
Fax: 805-984-5432
E-mail address: DegalaLe@polar.org

Mail: NSF Contractor Representative
 P.O. Box 338

INDIRECT AIR CARRIER PROGRAM CHANGE

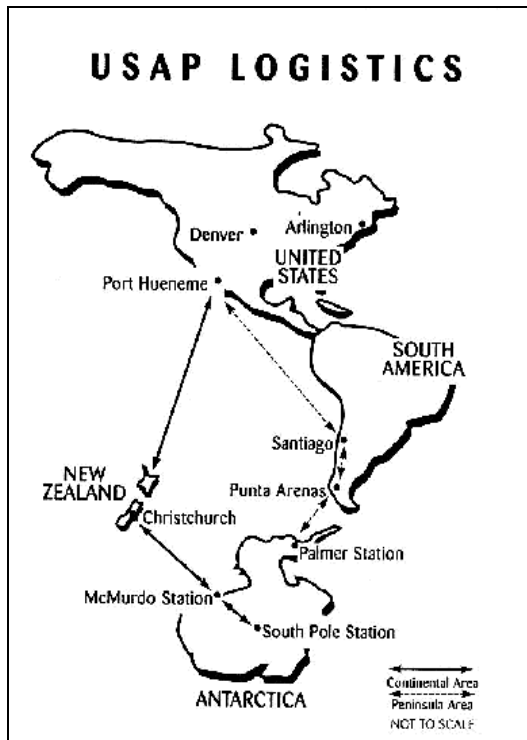
The Federal Aviation Administration (FAA) implemented a change to the manner in which air cargo is accepted for transport on passenger aircraft. This change strengthens the safeguards against the threat of explosive devices planted on passenger aircraft, and deters the unauthorized introduction of explosives, hazardous materials, incendiaries and destructive devices into cargo intended for transportation in air commerce.

The NSF Contractor Representative, Port Hueneme must now submit a signed Shipper's Security Endorsement for all commercial air shipments. The endorsement states that the shipment does not contain any unauthorized explosives, destructive devices or hazardous materials. The indirect air carrier, or the NSF Contractor Representative in this case, is responsible for preventing the unauthorized addition of explosives or hazardous materials to the cargo's contents. The unauthorized shipment of hazardous materials via air carriers subjects the shipper to a personal liability of a \$25,000 fine, 5 years in jail, or both. This penalty applies to the individual who certified the shipment for air transportation along with the shipper's employer.

Due to these changes each box or container arriving in Port Hueneme must be opened and inspected before it can be forwarded via air transportation. Containers shipped with locking devices such as padlocks will also be inspected. Cargo will not be forwarded if the container cannot be opened. Materials found to be unacceptable for commercial air transportation will be diverted to commercial surface shipment and will require more time to reach the destination. Similar restrictions apply to retrograde shipments from Antarctica whereupon the discovery of undeclared hazardous materials may result in delayed shipment, and penalties.

METHODS OF CARGO SHIPMENT TO NEW ZEALAND AND DEFINITIONS

CONUS-NEW ZEALAND



COMMERCIAL SURFACE. Cargo which arrives at Port Hueneme by the Required Delivery Date (RDD) is containerized and shipped surface from California to New Zealand via a commercial sailing vessel. This is the primary shipment method and is the most cost effective for cargo which must be shipped through New Zealand to McMurdo and South Pole Stations. In contrast, Commercial Air transportation rates are typically 15 times more expensive than Commercial Surface. There are two Commercial Surface shipments from Port Hueneme each year, one in August and one in September which allows for air shipment (Kilo Air) of cargo to McMurdo and South Pole Stations from Christchurch from early October to late November or early December. Refer to "Required Delivery Dates to Port Hueneme" to determine the date cargo needs to be received in Port Hueneme in order to meet its Required On-Site date (ROS) in Antarctica.

SPECIAL ASSIGNMENT AIRLIFT MISSION (SAAM). A SAAM is a chartered USAF cargo jet used to transport cargo which is extremely perishable or

outsized, such as helicopters or liquid helium transports. SAAM flights typically depart from the Continental United States to Christchurch, New Zealand at the beginning of the austral summer season. Special coordination is required for all SAAM shipments. Do not *plan* to send any cargo by this mode because there is no guarantee a SAAM flight will be scheduled.

AMC CHANNEL. Cargo is sometimes shipped via the Air Force Air Mobility Command (AMC) Channel system. Delays can be expected in this system since USAP Cargo has to compete in priority with all Department of Defense cargo. Certain hazardous material classes such as explosives can only be shipped via this transportation mode. The AMC only schedules missions through Christchurch when there is sufficient cargo to warrant the cost of a mission. Consequently, there can be long delays for cargo shipped via AMC Channel.

COMMERCIAL AIR. Cargo which can not arrive at Port Hueneme by the RDD, must be flown to New Zealand via commercial air carrier if it is necessary to meet the Required on Site Date (ROS). This shipping method is the most costly and is discouraged. Advanced authorization from the NSF is required for all Commercial Air Shipments. The transit time is 30-65 days depending upon destination.

KILO AIR. Cargo routed from the Continental United States (CONUS) to Christchurch, NZ via commercial surface vessel and then flown via military aircraft to McMurdo Station is referred to as Kilo Air.

WINFLY. Winter fly in, which normally occurs in August refers to the delivery of passengers and cargo to McMurdo Station for the purpose of opening the station to full operational capability. For McMurdo, Winfly normally occurs in August and for South Pole it occurs in October.

MAINBODY. For Continental stations this is the first weeks of summer operations when the majority of the summer participants arrive on station. For McMurdo, Mainbody normally begins the first Tuesday in October. For South Pole, it is normally the first week of November.

NEW ZEALAND-MCMURDO AIR CARGO

ICE RUNWAY PERIOD. The Ice Runway Period denotes the period from the beginning of October (MAINBODY) to typically the first week of December. During this period, cargo is flown to Antarctica on wheeled aircraft landing at an Ice Runway prepared on the annual sea ice near McMurdo Station. Air cargo is transported to Antarctica via C-141, C-17, C-5, LC-130, and C-130 military aircraft.

POST-ICE RUNWAY PERIOD. The Post-Ice Runway Period for McMurdo Station denotes the period from the close of the Ice Runway in early December to close date in late February. During this period, flight operations are conducted off the William's Field skiway using LC-130 ski-equipped aircraft only. Airlift is significantly reduced during this period. Materials should be scheduled for movement during the Ice Runway period whenever possible because of the increased availability of airlift.

RESUPPLY VESSEL CARGO. This is cargo shipped by a chartered vessel to McMurdo Station from Port Hueneme, CA, via New Zealand. The Resupply Vessel departs Port Hueneme in early January and arrives at McMurdo in early February. Considering all methods of transport from CONUS to Antarctica, the annual Resupply Vessel is the most cost-efficient mode of shipping for both south and northbound cargo. The vessel returns to Port Hueneme for retrograde offload in mid-March. To provide timely delivery, the onward shipment of scientific materials and samples becomes the first priority. Shipping via the resupply vessel should be the first option considered because of cost and the ability to control temperatures for temperature sensitive cargo.

SHIPMENT PLANNING FACTORS. In order to meet the Port Hueneme cargo cut-off dates, consideration should be given to the modes of shipment and the in-transit time to Port Hueneme.

1. Cargo for groups deploying to Continental Antarctica during WINFLY must arrive at Port Hueneme by 1 July in order to ship it by the most cost effective method.
2. Cargo which has an ROS date prior to 14 November, must arrive at Port Hueneme by 19 August.
3. Cargo which has an ROS date after 14 November, must arrive at Port Hueneme by 30 September.
4. Resupply Ship Cargo must arrive at Port Hueneme by 18 November.
5. All cargo arriving in New Zealand, whether by Commercial Surface or other modes, is routed to McMurdo Station and South Pole Station in accordance with NSF-designated priorities, Required On-Site date (ROS), scheduling, and availability of air cargo space.
6. The relative priorities determine when cargo is shipped from Christchurch to McMurdo Station, and onward to South Pole Station. As a result, your air cargo generally does not go aboard the same aircraft upon which you are a passenger (in most cases it arrives before you do).
7. Commercial Air cargo shipments require a minimum of **30 days** from the time the material is received at Port Hueneme to the time it arrives in McMurdo Station. Additional time (normally **60 days** total) must be allowed for hazardous and oversized cargo. Non-hazardous cargo destined for South Pole Station requires a minimum of **45** days. Remember, Commercial Air cargo can be subjected to unforeseen delays including labor strikes, New Zealand holidays, and Customs clearance formalities. **If you want to ensure your material arrives in a timely manner, then Commercial Surface is recommended.** However, Commercial Air shipment is the most costly mode of transportation and requires NSF approval. Commercial Air shipment costs 15 times more than commercial surface shipments.

COMMERCIAL AIR TIME TABLE FROM PORT HUENEME, CA

TO MCMURDO STATION -	30 DAYS minimum		
TO SOUTH POLE STATION -	minimum	45	DAYS
FOR HAZARDOUS MATERIALS -	minimum	60	DAYS
TO R/Vs (NZ) -	DAYS minimum		30
HAZARDOUS MATERIALS TO R/Vs (NZ) -	DAYS minimum	45	

METHODS OF CARGO SHIPMENT TO CHILE AND DEFINITIONS

CONUS - PUNTA ARENAS, CHILE

COMMERCIAL SURFACE. Cargo which arrives at Port Hueneme by the Required Delivery Date (RDD), is containerized and shipped from California to Punta Arenas, Chile via a commercial sailing vessel. This is the primary and the most cost effective method. The transit time is approximately **90 DAYS**.

COMMERCIAL AIR. Cargo which can not arrive at Port Hueneme by the RDD must be flown to Punta Arenas, Chile via commercial air carrier. This shipping method is the most costly and requires prior NSF approval. The transit time is **30 DAYS**; **45 DAYS** for dangerous goods.

COMMERCIAL AIR SHIPMENTS TO OTHER VESSEL PORTS FROM PORT HUENEME, CA

TO SOUTHERN OCEAN PORT - 90 DAYS
HAZARDOUS MATERIALS TO SOUTHERN OCEAN PORT - 105 DAYS

Oversized cargo is defined as cargo whose dimensions exceed 84" x 108" x 96". Oversized cargo must arrive in Port Hueneme in time for Commercial Surface transportation based on published cut-off schedules for science cruises. Oversized Commercial Air Shipments to Chile are considerably more expensive than regular Commercial Air Shipments. Oversized cargo shipments can be delayed up to 10 days in Santiago due to the lack of Cargo Aircraft to Punta Arenas. **Please note that the material cut-off schedule changes as the vessel schedules are adjusted. Before shipping your materials to Port Hueneme, please confirm the required material cut-off dates with your RPSC Science Support Point of Contact (POC) or the NSF Contractor Representative, Port Hueneme, California.**

BAGGAGE

AIR CARGO is distinctly different from baggage. This is frequently confused. Baggage is the category of items which will travel on the same plane as yourself. Each passenger is limited to two pieces of baggage not exceeding 70 pounds each when flying international commercial air. However, McMurdo and South Pole Station passengers are limited to a total of 75 pounds of baggage when flying via Military Aircraft from Christchurch, New Zealand to Antarctica. This includes your luggage, equipment and other items that you deem appropriate, as well as the Extreme Cold Weather clothing issued at Christchurch (approximately 35 pounds).

- Please note:
1. Additional baggage in excess of two pieces totaling 140 pounds when flying international commercial air must be arranged in advance and be authorized by NSF.
 2. The 75 pounds limitation is strictly enforced from Christchurch, N.Z. to McMurdo Station and South Pole Station. Additional baggage in excess of 75 pounds when flying to McMurdo Station and South Pole Station must be requested in advance and authorized by the NSF
 3. Hazardous or incompatible items are strictly forbidden in baggage. **MANY CHEMICALS USED BY USAP GRANTEEES ARE HAZARDOUS FOR TRANSPORTATION AND MAY NOT BE CARRIED IN CHECKED OR CARRY-ON BAGGAGE!**

Requests for commercial and military excess baggage should be made on the Excess Baggage Request Form provided with the Grantee Travel Request Form. If you have not received these forms please contact the RPSC Travel Office at (303)-790-8606 ext.3131, 3448, or 3336. Alternatively, the Travel Office may be contacted by e-mail at: travel@polar.org Both forms should be returned at the same time.

Excess baggage coupons for each piece of approved excess baggage will be included with your commercial airline ticket. Excess baggage tickets are not transferable. **Those who are authorized excess baggage for deployment do not automatically receive excess baggage for redeployment.** It must be requested. Therefore, if you know in advance that you will require excess baggage during redeployment, discuss your needs with the RPSC Travel Specialist. **Bookmark not defined.** A re-confirmation request for excess baggage from McMurdo to Point of Origin must be made again in McMurdo and approved by the NSF Representative. Contact the

NSF Pax Coordinator in the Chalet for a NSF/Grantee Redeployment form. Unused coupons must be returned to RPSC for reimbursement to the USAP.

Note: All winter-over participants are entitled to carry three pieces, 210 pounds of baggage from the United States to New Zealand or Punta Arenas. Contact the RPSC Travel Specialist for details. Once approved, appropriate adjustments will be made to the Christchurch-McMurdo baggage allowance weights for winter-over personnel.

ADDRESS FOR CARGO SHIPMENTS

The following forwarding address for cargo shipment to Port Hueneme should be stenciled on all boxes or typed on 3" X 5" white cards SECURELY GLUED OR STAPLED to the outsides of boxes:

EXAMPLE:

NSF CONTRACTOR REPRESENTATIVE
BLDG 471 - NORTH END
USN - CBC
PORT HUENEME, CALIFORNIA 93043
ATTN: USAP - Station Abbreviation (ZCM)
Station Project Code (DR1)
Grantee Name (BARCUS)
Event Number (XX-999-X)
ROS (Date Required in Antarctica)

ABBREVIATIONS AND PROJECT CODES IDENTIFYING CARGO

Antarctic	Station	Station <u>Station</u> <u>Abbreviation</u> <u>Code</u>	<u>Project</u>
McMurdo Station	ZCM	DR1	
South Pole Station	NPX	DR3	
Christchurch, New Zealand	CHC	DR9	
Palmer Station		PAL	DR7
Punta Arenas	PHQ	PUA	
R/V NATHANIEL B. PALMER	NBP	NBP	
R/V LAURENCE M. GOULD	LMG	LMG	

MARKING

Boxes containing delicate equipment or perishable supplies should bear appropriate markings, e.g., "FRAGILE", "DO NOT FREEZE", "HANDLE WITH CARE", "KEEP FROZEN". These markings should be clearly lettered on all sides of the container except the bottom.

Boxes should be marked by a series of consecutive box numbers for each shipment made to Port Hueneme, e.g., Box 1 of 4, Box 2 of 4, etc.

The NSF Contractor Representative, Port Hueneme, will assign USAP transportation control numbers (TCNs) to each package according to your project code (event number), and transportation mode. Port Hueneme will prepare identifying shipping documents which will be on file at Port Hueneme, Washington, D.C., Christchurch, McMurdo, Palmer, South Pole and any other involved station and research vessel. In addition, a copy is sent to each principal investigator.

COLOR CODING OF CARGO AND "DO NOT FREEZE"

For standout recognition and continuity within the logistics system, "DO NOT FREEZE" cargo should be packed in black boxes and marked with large white "DO NOT FREEZE" lettering in addition to the appropriate USAP markings described previously. It should be noted that the USAP has established a set of maximum dimensions for "DO NOT FREEZE" cargo of 48" x 45" x 40" (L x W x H). This roughly corresponds to the dimensions of the standard 50 cubic foot triwall container used in the USAP. Larger "DO NOT FREEZE" items may be shipped through the USAP cargo system, but only after significant justification has been provided to and arrangements have been made with the NSF Contractor Representative, Port Hueneme.

In addition to size restrictions, the NSF has mandated that under no circumstances shall "DO NOT FREEZE" cargo be mixed in the same box with non-"DO NOT FREEZE" cargo. This policy is in effect due to the limited availability of heated storage space in Antarctica. All "DO NOT FREEZE" cargo may be inspected at any point in the cargo system. If the cargo is not properly segregated, delays will result corresponding to the amount of time required to repack the items in separate containers. This policy allows the USAP to more efficiently expedite delivery of cargo.

SHIPMENTS TO PORT HUENEME ORIGINATING FROM OUTSIDE THE U.S.A.

Equipment shipped from a foreign country, then through the U.S. to Antarctica (or elsewhere), must enter the United States under U.S. Customs Transportation Entry (T&E) Form 7512. The form is available for a small fee from:

U.S. Customs Office
Treasury Department
2100 K Street, N.W.
Washington, D.C. 20037

It is recommended that the services of a recognized customs broker be secured for the preparation of the required documentation and forwarding of these shipments. It is essential that prior contact with the NSF Contractor Representative at Port Hueneme be established to facilitate processing through customs and onward travel shipments.

Cargo consigned to the USAP, Port Hueneme, CA will be re-exported from the U.S. Naval Construction Battalion Center, Port Hueneme, California, or from the U.S. Naval Air Station, Pt. Mugu, California, both of which are covered by U.S. Customs. T&E shipments should move early enough to allow for occasional short delays while the carrier arranges local delivery witnessed by Customs.

PREPAYMENT: All cargo shipments from foreign countries to Port Hueneme, California, for further shipment to Antarctica, must be shipped prepaid from point of origin to Port Hueneme via Los Angeles. All transportation charges including surface or air in the U.S., freight-forwarding, and brokerage fees must be prepaid.

CARGO DAMAGE, INSURANCE, AND CUSTOMS

The National Science Foundation (NSF) and Raytheon Polar Services Company (RPSC) are not responsible for loss, damage or destruction of scientific equipment and general cargo:

- Shipped between its point of origin or destination and Antarctica
- While **in** Antarctica.
- While it is being transported via USAP transportation modes, e.g., research vessels, annual resupply vessel or aircraft.

Claims for lost or damaged shipments will be considered if RPSC is found to be grossly negligent during handling and shipping.

Participants are responsible for obtaining insurance on their shipments. The insured value could be as high as the current replacement cost. With the exception of military transport, items may be insured at **any** point during transit.

The insured value is not the same as the customs value. The declared customs value should be the actual market value. That is, the cost to purchase the item in its current condition and at its current age. Please provide the actual market value on customs forms and the RPSC Retrograde Cargo form. It is solely the shipper's responsibility to accurately describe the contents and declare the value of shipments. **RPSC cannot and will not make this declaration.**

The US Customs Office scrutinizes high dollar value shipments closer than lower dollar value shipments. Using the replacement cost rather than the current market value may unnecessarily

delay customs clearance. When the cargo value reaches a certain dollar threshold, Customs personnel give the shipment more attention and ask more questions. The time required addressing these questions result in delayed clearances. US Customs may also seize incoming shipments of highly technical equipment for which an export license is required from the Bureau of Exports within the Department of Commerce. There is a low incidence of this in the USAP. The Bureau of Exports can be contacted to verify whether the highly technical equipment being shipped to Antarctica requires an export license. Getting an answer from the Bureau can take months, so advance planning is recommended.

Some shippers ship their cargo to Antarctica in locked containers. US and Foreign Customs agents will and do cut these locks to inspect the contents. Serialized seals are recommended over padlocks.

PREPARATION FOR FORWARDING YOUR SHIPMENT

At the time of shipment, provide the NSF Contractor Representative, Port Hueneme with a copy of your shipping information. This should be in the form of a trucking Bill of Lading or an Air Waybill. Make sure that the information clearly indicates the delivering carrier, shipment number, piece count, date departed, scheduled delivery date, and total weight. In addition, forward a detailed packing list outlining the contents in each package. The packing list should include your event number, your Antarctic destination (NBP, ZCM, NPX, LMG, PAL) and the Required on Site Date (ROS). Details of the contents must include model numbers, serial numbers, and U.S. dollar value. "Scientific Equipment" is not an acceptable description of equipment contained in a packing list. A copy of your packing list must be attached to the outside of each container.

Commercial air retrograde lead-time for cargo transiting via South America can fluctuate during the austral summer season. Several factors contribute to this fluctuation including customs clearing protocol and limited space aboard commercially operated aircraft in Chile due to the export of agricultural and seafood products. Other options are available and will be exercised by the Logistics Manager if delays of up to 2 weeks are experienced. Therefore, participants should plan on the published commercial air transit time of 30 days for regular cargo and 45 days for hazardous cargo to reach the final destination. Time sensitive cargo will be dealt with on a case-by-case basis, and should be segregated from other cargo to facilitate timely movement.

Formalin/Formaldehyde diluted solutions used for preserving biological specimens have become a sensitive issue for domestic airline carriers within Chile. Formalin/formaldehyde solutions, in their opinion, have the potential to emit noxious fumes in the event of accidental leakage, or spillage and require a dangerous goods declaration. The airlines' primary concern is the fumes may overcome crewmembers and prevent them from performing their duties. In response, a letter identifying the cargo and concentration of formalin/formaldehyde has been developed to assist in preventing delays and expediting formalin shipments. This form is managed by the MPC's of the research vessels and the Logistics Supervisor at Palmer Station.

To assist in the movement of formalin preserved sample shipments the following actions will be taken:

- The originator will fill out and sign a form stating the concentration of formalin/formaldehyde solution, which will be presented to AGUNSA by the MPC upon arrival in port. This will be included with the Shippers Declaration and other shipping papers for the airline carrier.
- The following information will be included in the manifest item descriptions and all on the outer packaging of the samples: AVIATION REGULATED LIQUID, n.o.s. (Formaldehyde at 2%), Class 9, UN3334, one fiberboard/wooden box X ??? liters.
- The solution percent concentration of formaldehyde will be listed instead of formalin. This is how it is referenced in the IATA regulation and eliminates the need for the airline to calculate the % from a formalin solution.

REQUIRED CARGO DELIVERY DATES TO PORT HUENEME

The following list shows the valid Required On-Site (ROS) dates (date materials are required in Antarctica) and their accompanying Required Delivery Dates (RDD), (date materials are required in Port Hueneme to meet the specified ROS) for cargo shipments during the 2000-2001 field season. Cargo that does not arrive within these prescribed guidelines, and requires Commercial Air Shipment, will require NSF approval. Please note cargo may not meet its prescribed ROS date if the RDD is not met.

Post Kilo-Air ROS dates are only to be utilized for emergency resupply or pre-planned programs. Airlift between Christchurch and McMurdo Station is extremely limited during this period. Please consult with the NSF Contractor Representative, Port Hueneme before planning cargo shipments during the Post-Kilo Air phase. Materials required in Antarctica during the Post-Kilo Air Phase should arrive at Port Hueneme by the 4 November.

	<u>Required On Site Date In McMurdo or South Pole</u>	<u>Required Delivery Date to Port Hueneme</u>
Winfly	0232 19 Aug 2000	9183 01 July 2000
Kilo Air	0288 07 Oct 2000	0232 19 Aug 2000
	0288 14 Oct 2000	0232 19 Aug 2000
	0295 21 Oct 2000	0232 19 Aug 2000
	0302 28 Oct 2000	0232 19 Aug 2000
	0309 04 Nov 2000	0232 19 Aug 2000
Kilo Air	0316 11 Nov 2000	0232 19 Aug 2000
	0323 18 Nov 2000	0274 30 Sep 2000
	0330 25 Nov 2000	0274 30 Sep 2000
	0337 02 Dec 2000	0274 30 Sep 2000
	0344 09 Dec 2000	0274 30 Sep 2000
	0351 16 Dec 2000	0274 30 Sep 2000
Post-Kilo Air	0358 23 Dec 2000	0309 04 Nov 2000
	0365 30 Dec 2000	0309 04 Nov 2000
	1006 06 Jan 2001	0309 04 Nov 2000
	1013 13 Jan 2001	0309 04 Nov 2000
	1020 20 Jan 2001	0309 04 Nov 2000
	1027 27 Jan 2001	0309 04 Nov 2000
	1034 03 Feb 2001	0351 16 Dec 2000
	1041 10 Feb 2001	0351 16 Dec 2000
1048 17 Feb 2001	0351 16 Dec 2000	
Vessel	1032 01 Feb 2001	9322 18 Nov 2000

Peninsula Area Cruise Shipping Schedule:

INSTRUCTIONS ON PACKAGING AND SHIPPING
2000-2001 Field Season

The following list shows the dates materials are required in Port Hueneme to meet the Peninsula area Cruise Schedule. The Required Delivery Date to Port Hueneme listed will allow the materials to be shipped via South American Vessel, which is the preferred method. **Materials that cannot meet this deadline will need to be sent via Commercial Air and require a minimum of 30 days lead-time for standard cargo, and 45 days lead-time for hazardous or oversized materials.**

LAWRENCE M. GOULD CUT-OFF DATES

Cruise Number	Date Materials Required In Punta Arenas to Meet Ship	Required Delivery Date to Port Hueneme
LMG00-8	0259 05-Sep 2000	17-Jun 2000
LMG00-8A	0277 03-Oct 2000	05-Jul 2000
LMG00-9	0293 19-Oct 2000	21-Jul 2000
LMG00-10	0317 12-Nov 2000	14-Oct 2000
LMG00-11	0343 08-Dec 2000	09-Sep 2000
LMG01-1	0365 30-Dec 2000	01-Oct 2000
LMG01-1A	1033 02-Feb 2001	04-Nov 2000
LMG01-2	1051 20-Feb 2001	22-Nov 2000
LMG01-3	1077 18-Mar 2001	18-Dec 2000
LMG01-4	1106 16-Apr 2001	16-Jan 2001
LMG01-5	1154 03-Jun 2001	05-Mar 2001
LMG01-6	1195 14-Jun 2001	15-Apr 2001
LMG01-7	1241 29-Aug 2001	31-May 2001
LMG01-8	1258 15-Sep 2001	17-Jun 2001
LMG01-8A	1277 04-Oct 2001	06-Jul 2001

NATHANIEL B. PALMER CUT-OFF DATES

Cruise Number Date	Date Materials Required to Meet Ship in Port	Required Delivery to Port
Hueneme NBP00-5	0183 01-Jul 2000	01-Jun 2000
NBP00-6A	0201 19-Jul 2000	01-Jun 2000
NBP00-6B	0249 05-Sep 2000	19-Jun 2000
NBP00-6C	0270 26-Sep 2000	27-Aug 2000
NBP00-6D	TBD	TBD
NBP00-7A	0299 25-Cot 2000	25-Sep 2000
NBP00-7B	NO CARGO	NO CARGO
NBP00-8	0353 18-Dec 2000	19-Sep 2000
NBP01-1	1025 25-Jan 2001	27-Oct 2000
NBP01-2	1086 27-Mar 2001	25-Feb 2001
NBP01-3	1106 16-Apr 2001	16-Jan 2001
NBP01-4	1195 14-Jul 2001	15-Apr 2001

DIRECT COMMERCIAL SHIPMENTS TO NEW ZEALAND OR SOUTH AMERICA

For shipments with a destination of New Zealand or South America, cargo should be entered into the USAP Cargo System via Port Hueneme. The NSF will not be responsible for any commercial shipments sent directly to these destinations. In some situations it may be more practical for cargo originating outside the Continental United States to be shipped directly to New Zealand or South America. Please consult with the NSF Contractor Representative, Port Hueneme for advice. Cargo that is shipped directly to New Zealand or South America should use the following commercial shipment addresses:

PALMER, or	NSF Representative New Zealand National Science Foundation International Antarctic Center	Sr. Ricardo Doberti AGUNSA c/o Palmer Station, Master R/V NATHANIEL B.
	Orchard Road North	Master R/V LAURENCE M.
GOULD	Christchurch International Airport Christchurch, New Zealand Telephone: (011) 64-3-358-8139 Fax: (06) 643 358 9060	Deposito Franco Zona Antartica Agencias Universals S.A. Punta Arenas, Chile Tel. 011-56-61-248-706 Fax:011-56-61-226-095

**** To avoid customs delays, it is imperative that the following Trans-shipping instructions appear below the above address:**

EXAMPLE: FOR FURTHER SHIPMENT TO ANTARCTICA:
Name/Event Number of consignee (BARCUS/XX-999-X)
Station Abbreviation (ZCM)
Station shipping Code (DR1)
Number of this Box (1 of 18)
 ROS (Date Required on site)

Material shipped commercially to New Zealand and South America should be accounted for by a series of consecutive box numbers for each shipment, e.g., Box 1 of 4, Box 2 of 4, etc.

Preparation for forwarding your shipments to New Zealand or South America is virtually the same as described in the previous Preparation for Forwarding your Shipment section. For surface shipments, a **first original** copy of the Bill of Lading is required to be faxed to the South American Agent, AGUNSA, Attention Sr. Ricardo Doberti; and original paperwork for shipments to New Zealand must be faxed or airtailed to the Attention of the Manager, New Zealand Operations. Please ensure that a commercial invoice is included with your Bill of Lading, which outlines specific contents and dollar values. The appropriate paperwork must be received prior to the arrival of the cargo.

Note: *For Radioactive shipments please refer to RADIOACTIVE MATERIALS, NEW ZEALAND on Page 16, or RADIOACTIVE MATERIALS, CHILE on Page 17, for specific information on these types of shipments.*

REGISTRY OF FOREIGN MANUFACTURED ARTICLES

In order to avoid being subject to payment of customs duty and/or delay of re-entry into the United States, all foreign manufactured articles leaving the United States should be registered with U.S. Customs.

Obtain and complete a U.S. Customs Form 4455 , "Certificate of Registration of Foreign Manufactured Item" from your local U.S. Customs Office. Forward the completed form to the NSF Contractor Representative, Port Hueneme with the shipment of the materials. Ensure that you furnish complete descriptions, model numbers, and serial numbers. Also, provide the country of origin for each article.

These forms will be maintained on file at Port Hueneme and will be used for re-entry into the United States.

IMPORTATION OF TECHNICAL EQUIPMENT INTO NEW ZEALAND

USAP participants planning to **handcarry** high-value technical equipment through New Zealand should complete a New Zealand Customs Form #33. To request a form and further information contact the RPSC Travel Supervisor at 1-800-688-8606, ext. 3131. *Laptop Computers are generally exempted from this classification.*

New Zealand Customs requires the individual whose name appears on Form #33 be the same person to clear the item through customs. If an individual is in possession of a high-value technical piece of equipment and does not have an accompanying form, that piece of equipment may be seized.

The form belongs to the individual whose name appears on the document, not the equipment, and the form is non-transferable. If you plan to have one individual carry a piece of equipment down

during deployment and another carry it back during redeployment, then a form must be issued for each carrier. If the piece of equipment is left in Antarctica, the form must not be left behind with the equipment. New Zealand Customs requires RPSC to track these forms and report their whereabouts in May each year. Copies of the completed form must be mailed or Tele-faxed to the RPSC Travel Supervisor at 303-705-0742. Upon return from the ice, the original form must be mailed to the Travel Supervisor using the following address: 61 Inverness Drive East, Suite 300, Englewood, CO 80112.

DISCLOSURE OF DANGEROUS GOODS TO USAP TRANSPORTATION PERSONNEL

Shipper's are responsible for accurately describing dangerous goods, accurately marking containers and packages containing dangerous goods and disclosing the shipment to the USAP transportation personnel accepting the shipment on initial entry into the USAP transportation system. Failure to do so puts personnel at risk throughout the system and is in violation of federal law. When in doubt, please contact USAP transportation personnel for clarification.

PACKING

Your equipment will receive the treatment that is characteristic of stevedoring operations. Delicate or sensitive equipment must be protected. Grantees and/or their packing agents should not only give consideration for providing additional packing but should also consider the type of materials utilized for shock-absorbing packing.

Materials that are not easily degradable must be avoided. These items include, but are not limited to, polystyrene cushioning materials (commonly known as "packing peanuts"), polyurethane foam sheets, and silicone sponge sheets. **NOTE: THE POLYSTYRENE PACKING PEANUTS ARE A BANNED SUBSTANCE UNDER THE ANTARCTIC CONSERVATION ACT. DO NOT USE THESE FOR PACKING MATERIAL!** Suitable alternatives are bubble wrap, shredded paper, corrugated cardboard, burlap, and packing tissue wrap.

IMPORTATION OF WOOD PACKING MATERIALS INTO NEW ZEALAND

The New Zealand government has strict controls for clearance of all imports of timber and forest products with regard to quarantine requirements.

Inspections conducted by the Ministry of Agriculture & Forestry (MAF) are carried out to prevent accidental introduction or spread of insects or fungi that could damage the nation's forest and timber industries. These inspections include all wooden or plywood packing cases, crates, pallets, wood packing blocks, or wooden dunnage which **MUST BE COMPLETELY FREE OF BARK AND FROM VISIBLE SIGNS OF INSECTS, WORMS, OR FUNGI ATTACK.** Particleboard is unacceptable.

Infected items will be stopped at the port of entry and dealt with as directed by an MAF Inspector. Grantees and/or their packing agents should ensure all packing materials conform to the above regulations.

These regulations do not apply to packaging materials going to Palmer Station via Chile.

CONTAINERS

To the maximum extent possible, use reusable containers having hinged, clamped, or screw-fastened tops. This is important if items are to be returned as retrograde cargo at season's end.

Insulated containers may be appropriate if they are to be eventually used for retrograde that must be kept frozen or chilled. All cargo must be packed in containers of sturdy material, well fastened, securely braced, and reinforced. All boxes and containers should be banded with steel straps. The number of straps depends upon the size of the box. Each box should have a minimum of two straps.

Containers should be constructed to withstand contact with sharp corners of other containers, crushing weights, and shocks sustained due to handling in transit, e.g., in the warehouse, aboard ship or aircraft, and on station.

Material is often exposed to excessive moisture during outside storage. Additionally, it is common for condensation to occur inside of boxes during shipping from South Pole Station to McMurdo Station or to Palmer Station on the vessel. THE NECESSITY TO PACK FOR EXTREMELY ROUGH HANDLING AND EXPOSURE TO VARIOUS WEATHER CONDITIONS CANNOT BE OVER EMPHASIZED.

Heavy crates weighing more than 100 pounds must have 4" x 4" skids positioned on the bottom surface so that they may be easily handled by ship sling and/or forklift approaching the long side.

Material should be packed in increments weighing no more than 200 pounds. Consideration should also be given to the total volume of the box. A 125-cubic-foot box is the recommended maximum size for ease of handling. Boxes larger than 125 cubic feet may restrict movement and cause materials to be delayed.

Extremely small boxes (one cubic foot or less in size) present a problem equal to the oversized boxes in that they are difficult to account for in caches and in the holds of ships. USE OF EXTREMELY SMALL INDIVIDUAL BOXES SHOULD BE AVOIDED WHENEVER POSSIBLE. Small boxes should be grouped and overpacked together.

PACKAGING OF HAZARDOUS MATERIALS

HAZARDOUS MATERIAL MUST BE SEGREGATED BY HAZARD CLASS AND PACKAGED SEPARATELY FROM OTHER CARGO in accordance with Code of Federal Regulations, Title 49; Air Force Joint Manual 24-204; and the International Air Transport Association (IATA) Dangerous Goods Regulations.

With the exception of some medicinal and toilet articles for personal use, hazardous materials may never be carried in baggage. See *also*, **Dry Ice** on page 20.

Grantees planning shipments of hazardous cargo should consult Code of Federal Regulations, Title 49, to determine the packing requirements that are applicable to their shipments. Whenever possible, hazardous cargo should be prepared in accordance with the restrictions applicable to passenger aircraft. Grantees requiring assistance in preparing their shipments of hazardous cargo should contact the NSF Contractor Representative, Port Hueneme, or secure the services of a professional packer. Categories of hazardous materials include: explosives, gases, flammable liquids, flammable solids, oxidizers, poisons, radioactive material, corrosives and other regulated materials.

IN THE CASE OF SHIPMENTS MADE BY SCIENTIFIC SUPPLY HOUSES, GRANTEEES SHOULD ENSURE THAT THESE FIRMS ARE ADVISED OF ALL NECESSARY PRECAUTIONS AND PACKAGING REGULATIONS PRIOR TO SHIPMENT. Packing lists must describe all materials used in packing hazardous items.

HAZARDOUS MATERIAL MOVEMENT

Due to Department of Transportation regulations restricting hazardous materials movement and the complicating factor of shipment through a foreign country, these materials may move very slowly

through the system. In order to ensure timely arrival of such materials, they should be forwarded to Port Hueneme early enough for movement via Commercial Surface in August and September to McMurdo, or as specified by the materials cut-off schedule.

U.S. manufacturers and grantees are required to provide Material Safety Data Sheets (MSDS) with appropriate hazardous products. The Material Safety Data Sheets contain detailed information such as generic name, flash points, specific chemical properties and emergency first aid procedures in case of contact. Grantees must ensure this information is included with the shipment of hazardous materials, including those custom purified and/or mixed from their home institution. It is also recommended that grantees keep a copy of the MSDS as the original may not be delivered to Port Hueneme by the shipping agent.

HAZARDOUS MATERIALS WAIVERS PROCUREMENT FOR AIR SHIPMENT

Hazardous materials requiring waivers for air shipment should be identified as soon as possible, so that RPSC personnel can start the 45-day waiver request process. The U.S. Air Force Material Command requires 30 days to process a waiver request, and RPSC requires 15 days to research the hazardous material, and its packaging before submitting the request for waiver to AFMC.

PI's will be required to provide to RPSC all specifications concerning the packaging materials (i.e. type of container, drum/box/crate/cylinder, etc) with DOT numbers and specifications, if any. If a container does not meet DOT specs but the manufacturer of the container states that it will provide the required specification/protection, the PI must provide to RPSC testing documentation from the manufacturer that will support the claim that the containers meet all DOT regulations. In addition, the PI must provide the type, quantities, and weight of the materials and how it will be packaged (i.e. Acid Sulfuric 20-gal wt: 178-lbs Corrosive shipped in four 5 gal plastic drums meeting DOT spec 1234-abc overpacked in wooden crates [1 drum per crate] with 20 lbs. of absorbent materials surrounding the drum).

In the case of cryogenic vessels not meeting DOT specifications because of size, (i.e. too small to require a DOT specification number) the PI will be required to provide documentation. The documents will indicate that the vessel has undergone testing, and that the testing verifies the vessel meets the DOT requirements for like vessels of larger capacities.

EXAMPLES OF HAZARDOUS GOODS AND CHEMICALS

Following are short lists of some of the goods and chemicals that are deemed to be hazardous cargo when transported by air. These lists are in no way complete and it is not intended that they be used as a guide when determining if a material is a hazard or not. Many common household and laboratory materials are considered hazardous when they are transported. Contact the Hazardous Cargo Specialist at 1-800-688-8606 ext. 3433 or the NSF Contractor Representative, Port Hueneme, CA, for assistance in identifying and classifying hazardous materials.

EXAMPLES OF HAZARDOUS GOODS

Aerosols Gas Cylinders
Hydrochloric Acid

EXAMPLES OF HAZARDOUS

Acetone

Automotive Batteries	Glues	Chloroform	
Isopropanol			
Bleach	Lithium Batteries	Ethanol	
Kerosene			
Cryogenics	Paint and Spray Paints	Ether	
Methanol			
Explosives	Scuba Cylinders	Formaldehyde	Nitric
Acid			
Fire Extinguishers	Some Cleaning Materials	Glutaraldehyde	Sulfuric
Acid			

**** Note: Freon (trichlorofluoromethane) is a banned substance in New Zealand.** Grantees should consult with the NSF Contractor Representative, Port Hueneme before planning or shipping freon. Prior planning is critical for timely shipment.

EXPLOSIVES

Due to varying state, federal, international, and military regulations, prior planning is necessary before explosives are even purchased. Explosive shipments should be coordinated with RPSC Logistics personnel far in advance. **Some explosive shipments need one year's lead time.** Please contact the NSF Contractor Representative, Port Hueneme for more information.

RADIOACTIVE MATERIALS, NEW ZEALAND



Principal investigators are responsible for the procurement, packaging, transport and retrograde of NSF-approved radioactive materials required for their particular research project. The principal investigators must direct their requirement through the Radiation Safety Officer of their institution to ensure compliance with state, national and international regulations pertaining to the packaging and shipment of radioactive materials. Consult the NSF Contractor Representative, New Zealand by E-mail (hazmat@iac.org.nz) or fax (011-643-358-1479), for shipments to and through New Zealand. When ordering radioactive materials from the vendors, please make sure the vendors are aware that you do not want category "Yellow-II" or "Yellow-III" packages. Utilizing more packaging/shielding materials or dividing isotopes into multiple packages are methods that can be used to stay within the "White - I" category, which will facilitate shipping from New Zealand to McMurdo Station. Note: Many vendors may not understand your request, because "Yellow-II" packages with transport indices of up to 3.0 can be transported on commercial passenger aircraft; just explain that the "White - I" category is in accordance with the constraints of military passenger aircraft.

It is against the law to hand carry radioactive materials into New Zealand.

Radioactive isotopes **CANNOT** be shipped to New Zealand without the appropriate Certificate of Authorization to Import Radioactive Materials. The NSF Contractor Representative, New Zealand, is not an approved agency to obtain this certificate. RPSC does have an agent in Auckland, New Zealand (Nuclear Supplies Ltd.) that handles all of the appropriate paperwork formalities, including clearing the shipment through New Zealand Customs, Ministry of Agriculture, and the National Radiation Laboratory. Often U.S. vendors will consolidate USAP

scientist shipments with other orders destined for New Zealand hospitals and laboratories, via Nuclear Supplies Ltd.

Accordingly, if you are planning to order and ship radioisotopes directly from U.S. vendors to New Zealand, then you MUST adhere to the following instructions:

1. You must first order through one of these three vendors:

American Radio Labeled Chemicals

ICN Bio Medicals

(Nuclear Supplies Ltd. are sole New Zealand agents for these two vendors.)

DuPont/NEN

(Nuclear Supplies Ltd. are not New Zealand agents for, but have permission to accept consolidated shipments from this vendor.)

2. All orders must be marked by the vendor for "NSF Christchurch, New Zealand, via Nuclear Supplies Ltd., c/o Divers and Leonard - Customs Agents, Auckland International Airport, Auckland, New Zealand, Attention: Alan Hutchinson, Telephone/Fax: + 64 - 9 - 536 - 6322". Your project's event number and name of principal investigator (PI) must also be included in the shipping instructions so that the NSF Contractor Representative, New Zealand will know who to consign the shipment to in Antarctica.
3. After the order is placed with the vendor, you then MUST send the NSF Contractor Representative in New Zealand either an e-mail (hazmat@iac.org.nz) or fax (011-643-358-1479). Include the details of the order including the vendor used, purchase order number, listing of radioisotopes ordered and their activity, an air waybill number for the shipment, and date that shipment is expected to depart the United States/arrive in Auckland, New Zealand.

Upon receipt in Christchurch, the NSF Contractor Representative, New Zealand, ensures that the shipment is consigned to the PI at a station in Antarctica or aboard a USAP vessel at Port Lyttelton.

In the event you cannot order the required item from the vendors listed in paragraph 1 above, then you must notify the NSF Contractor Representative, New Zealand who, in turn, will coordinate with the appropriate New Zealand authorities to obtain the necessary Permit on your behalf PRIOR to shipment.

Please do not hesitate to contact the NSF Contractor Representative, New Zealand, with any questions on this procedure.

RADIOACTIVE MATERIALS, CHILE

Principal investigators are responsible for the procurement, packaging, transport and retrograde of NSF approved radioactive materials required for their particular research project. The principal investigators must direct their requirement through the Radiation Safety Officer of their institution or Consult the NSF Contractor Representative, Port Hueneme for shipments to or through Chile.

There are two options by which to ship radioisotopes through Chile.

1. U.S. vendor ships directly to the RPSC Shipping Agent (AGUNSA), Punta Arenas.
2. Home Institution ships directly to RPSC Shipping Agent, (AGUNSA), Punta Arenas.

Whether you are planning to have the vendor or your home institution ship radioisotopes to Punta Arenas, you **MUST** adhere to the following instructions.

The Principal Investigator (PI) makes arrangements with the vendor, or home institution's Radiation Safety Officer (RSO) to have radioisotopes sent directly to RPSC's representative in Punta Arenas, Chile (see address below). A Material Safety Data Sheet (MSDS) must accompany all shipments. The vendor, or RSO must ensure compliance with state, national and international regulations pertaining to the packaging and shipment of radioactive materials. At the time of shipment, the PI is responsible for contacting Mr. Brien Borden, Peninsula Logistics (INTERNET: bordenbr@polar.org; TELEPHONE (303) 790-8606 ext 3142) and their RPSC Point of Contact (POC). Peninsula Logistics should be informed of any special storage requirements (keep chilled, keep frozen) for the radioisotopes. This is most important since the radioisotopes will be stored for several weeks before receipt at Palmer Station.

Radioisotopes should arrive in Punta Arenas at least two weeks prior to the vessel's departure. The PI should check with their POC for the latest ship schedule. The radioisotopes should be sent directly to:

Master

Sr. Ricardo Doberti
AGUNSA c/o Palmer Station, Master R/V NATHANIEL B. PALMER, or

R/V LAURENCE M. GOULD
DEPOSITO FRANCO ZONA ANTARCTICA
AGENCIAS UNIVERSALAS S.A.
PUNTA ARENAS, CHILE
Tel. 011-56-61-248 706
Fax:011-56-61-226 095

Upon receipt at Punta Arenas, Chile, the RPSC Shipping Agent, AGUNSA facilitates the clearance of radioisotopes through Chilean Customs. The radioisotopes are stored in the Warehouse at Punta Arenas until such time as it can be turned over to the Marine Projects Coordinator (MPC). The MPC will deliver the package to the user grantee upon verification that all required safeguards are in place. (For isotope use commencing at Palmer Station, the MPC will deliver the package to the RPSC Lab Supervisor for delivery to the grantee.)

PREPARATION OF USAP RETROGRADE CARGO SHIPMENTS

Retrograde cargo consists of those specimens, scientific equipment, and personal gear which is being returned to your institution from Antarctica. To assure quick and orderly receipt of your retrograde cargo, your full understanding and cooperation are required.

Each grantee must pack and mark their own retrograde. Materials are obtained from cargo personnel, including stencils or labels, Transportation Control Numbers, and certain packaging materials. Hazardous retrograde cargo will be packaged, marked, and documented by RPSC personnel but the USAP participant must disclose that the shipment contains hazardous cargo. Hazardous retrograde cargo may not travel as baggage or "hand carry." Check with RPSC Logistics or Laboratory personnel to ensure that chemicals and materials intended to be carried on to aircraft are not hazardous for transportation.

Forwarding can be expedited if re-labeling is not necessary at the port where the cargo is off-loaded. The following example indicates information, which should appear in large letters on two sides of every container.

BX: N64157-8000-X001 (Transportation Control Number provided by RPSC cargo personnel).
WT: 125 (Wt in lbs for McMurdo and South Pole Station, and NBP/LMG cargo being retrograded from McMurdo Station, Wt in Kilograms for all other locations.)

CU: 12 (Cubic feet for McMurdo, and South Pole Stations and NBP/LMG cargo being retrograded from McMurdo Station, cubic meters for all other locations.)

FROM: XX-999-X

VIA: NSF CONTRACTOR REP, USN CBC
BLDG. 471, NORTH END
PORT HUENEME, CA 93043

TO: DR. JAMES BARCUS
DEPARTMENT OF PHYSICS
UNIVERSITY OF DENVER
DENVER, COLORADO 80201
PHONE: (303) 555-6200

Cover all old marks with a neutral obliterating paint. Two coats are usually needed to cover stencil ink.

Band the cargo with steel strapping if possible. Plastic strapping or heavy wire can serve as a substitute. Apply a different assigned transportation control number to each box.

Sufficient padding should be used around the contents of the containers to cushion them against shock. The contents should be packed securely and vacant spaces should be filled to prevent the contents from shifting. Boxes are often exposed to excessive moisture during outside storage. Moisture barrier wrapping, waterproof sealing, and desiccants should be used.

New Zealand Ministry of Agriculture and Forestry (MAF and USDA) permits should be attached to the outside of each box containing biological or other samples when needed.

Once the cargo is packed, it must be inspected and manifested by cargo personnel. The documentation clerk will execute the documents required for shipment in the USAP Cargo System.

Keep accurate and numbered lists as your retrograde is packed. Complete descriptions, nomenclatures, manufacturers, countries of origin, and valuations are necessary in order to forward cargo. It is imperative that specific contents and dollar value be provided with the documentation for all retrograde cargo. This information is required by both United States and foreign customs regulations. Failure to provide it could result in substantial delays in ultimate delivery. Scientific specimens may be listed as "No Commercial Value".

Do not retrograde government-owned material without specific permission of an authorized representative of the NSF Office of Polar Programs. All shipments are subject to inspection by various government agencies.

Receipt and clearance of retrograde cargo will be coordinated by the NSF Contractor Representative, Port Hueneme. Once cleared, cargo will be forwarded to individual consignees on a freight collect basis in accordance with the shipper's instructions.

If you wish to arrange your own transportation for cargo from Port of Entry to your institution, you must notify the NSF Contractor Representative, Port Hueneme, two weeks in advance of cargo arrival.

In general, RPSC will coordinate all cargo delivery. Be advised that any **international shipment charges** beyond the Port of Entry to final destination are the responsibility of the Principal Investigator. The PI is responsible for all costs from Port of Entry. **The principal investigator is responsible for cargo transportation charges from Port Hueneme to the final destination.** For shipments from Christchurch, New Zealand to destinations other than Port Hueneme, payment arrangements need to be handled in advance with through the NSF Contractor Representative, New Zealand.

Make certain you specify any special handling requirements and the desired method of shipment on the retrograde log form.

FROZEN SAMPLES

The shipment of samples that are to be kept frozen can be packed with blue ice, dry ice or a combination of both. Blue ice and/or dry ice can be replaced before inter-continental flights in order to keep samples frozen. Liquid nitrogen dry shippers are also available at all stations with pre-planning.

For specimens requiring dry ice, ensure that three inches of space surrounding the specimen is available for resupplying dry ice during the shipment. Failure to do so may cause delays in shipping because of repackaging requirements, and increase the potential for loss or partial deterioration of specimens. Material shipped on dry ice must be packed in porous containers. **THE USE OF NON-POROUS CONTAINERS SUCH AS HARD PLASTIC "COLEMAN" COOLERS IS PROHIBITED BY LAW.** For individuals carrying frozen samples as baggage, specific arrangements for obtaining and resupplying of dry ice must be made prior to departure. International Air Transport Association (IATA) regulations state that only 4.4 pounds of dry ice per passenger is allowed to be carried aboard the aircraft. This requirement applies to checked baggage and items carried onto the aircraft (a passenger cannot carry 4.4 pounds of dry ice onto the aircraft AND also check 4.4 pounds of dry ice as baggage). Dry ice in checked baggage requires the advance approval of the airline. This 4.4 pound limit also applies to each package of dry ice--passengers cannot consolidate their individual 4.4 pound dry ice allowances into one package. Individuals whose dry ice requirement exceeds the 4.4 pound limit will be required to utilize the cargo system for shipment (see below). Redeploying personnel must have a minimum of three hours between commercial airline flights in order for a dry ice transfer to be scheduled at United States Ports of Entry at either Los Angeles or Miami. If three hours between flights are not scheduled, your flight plans must be rearranged to include a three-hour time frame to permit receipt of the contracted dry ice resupply.

FREEZE SAFE BOXES & DRY ICE: Transporting frozen samples utilizing polyfoam freeze safe boxes as containers and dry ice as the freezing agent is the most common and preferred method of shipping frozen samples to your institution in the United States from South American ports. Dry ice is regulated as a dangerous good by IATA and when shipped as cargo (not baggage) is subject to a maximum of 200 kgs., or 440 pounds per package. Because dry ice is a dangerous good, delays in transportation via commercial airlines is not uncommon. In the event of such a delay, RPSC contract agents monitor and resupply the shipment with dry ice as necessary. Restrictions for transporting dangerous goods during the height of the holiday season is commonly experienced. Dangerous goods are always subject to refusal for flight by the airline or pilot.

DRY SHIPPERS: Dry shippers are liquid nitrogen charged containers used for retrograding samples requiring cryogenic temperatures. Dry shippers are not regulated for transportation

provided they meet design specifications when shipped as cargo, or as checked baggage. Those persons wishing to hand-carry frozen samples onto aircraft must use dry ice (see above for dry ice limits). RPSC cargo personnel can provide documentation explaining when dry shippers can be checked as baggage or flown as cargo in case airline personnel question their ability to be shipped. The holding time of a properly charged dry shipper is 14-21 days. Tests have proven that accelerated dissipation rates occur in transit when dry shippers are shipped or charged improperly, limiting the amount of time a sample will be protected while being shipped. This option should only be used when dry ice cannot provide the required temperature for sample integrity. *Dry shippers must be shipped in an upright position as the arrows on the container indicate. The dry shippers will lose their charge within 48 hours if they are not shipped in an upright position. Because dry shippers are not always shipped upright they present a greater risk of damage to their contents on international flights where the transportation time exceeds 48 hours. On domestic flights this is not so much a problem because cargo is delivered within 48 hours.* **Once the dry shipper has been transported from Punta Arenas, Chile or Christchurch, NZ, as cargo there are no opportunities for recharging the cylinder during transit. Individuals using the cargo system to transport dry shippers need to be available at their institution to receive the shipment upon clearance into the United States, otherwise, samples may be exposed to temperatures which may compromise the integrity of frozen samples.** Upon receipt at the grantee's home institution, USAP owned dry shippers should be returned to the NSF Contractor Representative, Port Hueneme as soon as possible.

All Dry Shippers should be inspected prior to usage to ensure they are in proper working condition. Please note the following list outlining five main inspection areas.

- 1) Check the shipping case. Does it close properly? Do the latches work? Is it in good general condition?
- 2) Check the dry shipper. Does it have any puncture marks or major dents?
- 3) Check the vacuum port cap. Is it in place? Is the vacuum port plug seated or loose?
- 4) Check the cap of the dry shipper. Is it cracked or broken? Does it fit properly?
- 5) Check the foam necktube core. Does it fit correctly in the necktube? Is it damaged or loose from the cap?

Any problems noted with these items are cause for rejecting the unit for use until replaced or examined further.

LIQUID NITROGEN DEWARs: Liquid nitrogen dewars are devices designed to store and dispense liquid nitrogen or preserve and store samples in liquid nitrogen. Liquid nitrogen dewars are used when cryogenic temperatures are required to preserve the integrity of biological samples for long periods of time during transit. Liquid nitrogen is also a dangerous good regulated by IATA. Liquid Nitrogen Dewars may not be hand-carried or checked as baggage, they must be sent as cargo. The maximum amount of liquid nitrogen allowed per package on passenger aircraft is 50 kgs., or 110 pounds. Because liquid nitrogen is a dangerous good, delays in transporting via commercial airlines is not uncommon. Upon receipt at the grantees home institution, the dewar should be returned to the NSF Contractor Representative, Port Hueneme.

Note: Many Dewars are designed for transit, however containers designed for samples storage are generally not certifiable for commercial or military shipment.

FROZEN/REFRIGERATED SAMPLES FROM MCMURDO STATION

Retrograde samples that must be kept frozen or refrigerated should be returned on the resupply vessel whenever possible. Freezer containers on the vessel are the most reliable method of transporting items that must be kept at constant freezing or refrigerated temperatures.

FROZEN SAMPLES FROM PALMER STATION AND THE PENINSULA

Cargo shipment is recommended for frozen samples returning from Palmer Station and the Research Vessels through South America. Frozen cargo must be kept frozen during transit but is shipped through regular retrograde cargo procedures and does not accompany the grantee home.

Individuals requesting frozen materials to be shipped to their institutions should inform their RPSC Science Support representative (POC) at Palmer Station, or the RPSC Marine Project Coordinator (MPC) aboard the research vessels at least two weeks in advance of their requested departure.

Individuals must inform the RPSC POC or RPSC MPC as to the volume which will be contained within the freeze safe container. Frozen cargo retrograde should be packed in either the large or extra large-sized freeze safes as requested by the principal investigator through the Support Information Package. The inside dimensions of the extra large freeze safes measure 23" x 24" x 13", the large freeze safes interior dimensions measure 17" x 17" x 13". Sample volume should not exceed one-third of the inner volume of the freeze safe, or take up less than 5-1/2 inches from the bottom of the freeze safe. The remaining space is utilized to include dry ice and blue ice in order to preserve the integrity of the frozen samples from Antarctica to your institution. Normally this will allow for a minimum of 70 pounds of dry ice for the freeze safes. The Vessel MPC will coordinate with the Punta Arenas Warehouse Manager to acquire the requested freeze safe box and arrange for commercial air transportation to your institution.

Transport of the frozen samples, U.S. Customs and Agriculture clearances, and forwarding to your institution routinely takes from 5 to 10 days. Grantees must be prepared to receive shipment at their institution in this time frame to avoid delays which could cause samples to be exposed to temperatures higher than desired.

Prior to departure from Palmer Station or the Research Vessels, the RPSC POC or RPSC MPC will require specific information concerning your shipment such as: the required temperature the sample shipment requires during shipment, the requested arrival date at your institution, container type, cooling medium, shipment address, and alternate point of contact. If storage is required at Port Hueneme, what temperature are the samples to be stored until the delivery date at your institution?

REFRIGERATED OR "CHILLED" SHIPMENTS

Refrigerated or "chilled" shipments are extremely difficult to support. For McMurdo and South Pole Stations, and New Zealand cargo, the Resupply Vessel and sometimes an escorted SAAM flight, provide the only transportation opportunities to truly maintain chill temperatures for material shipments. The alternative is to hand carry the material and attempt to control the temperature by frequent replenishment of cooling materials such as fresh water ice, blue ice, or dry ice.

Refrigerated or "chilled" shipments transiting through South America can not be supported through the USAP cargo system, unless the quantity of samples is large enough to require a refrigerated milvan. In most cases, these materials must be accompanied by the originator of the shipment aboard the passenger commercial aircraft, either by checking as baggage, or by personally hand carrying onto the aircraft. It is the responsibility of the traveler to maintain and monitor the chilled material while in transit. With advance notice agents working for RPSC on behalf of the USAP can assist with the resupply of cooling materials.

The use of blue ice to create chill temperatures for long-duration and non-escorted or handcarried shipments, such as intercontinental flights, is not recommended. If the blue ice is frozen at the start then the sample may freeze. If the blue ice is chilled at the start then the samples may be exposed to ambient temperatures by the time it arrives at its destination. Neither outcome is desirable given the cost and time of the scientific research.

Frequently, certain items may be shipped in a frozen state when the maintenance of the chill temperature is impossible or impractical. Keeping material in a frozen state for long duration trips has a higher probability of success than keeping material chilled.

MCMURDO AND SOUTH POLE STATIONS RETROGRADE NOTES

All McMurdo and South Pole Station cargo should be retrograded to the U.S. via the Resupply Vessel which departs McMurdo Station in February. Retrograde cargo requiring movement via commercial air must have prior approval of the NSF. Shipment by vessel in freight containers reduces the multiple loading and handling which occurs when cargo is shipped by air. Consequently, Resupply Vessel shipment reduces the chances of damage in transit. The vessel is typically off-loaded at Port Hueneme, CA, by the end March.

PALMER STATION, R/V NATHANIEL B. PALMER & R/V LAURENCE M. GOULD RETROGRADE NOTES

Each piece of cargo must be accompanied by a U.S. Custom Form 3299, "Declaration for Free Entry of Unaccompanied Articles" and a packing list and permits if required.

It is important that packing lists be developed while you pack your containers throughout the season. They should be accurate and complete. Again, an identification should be made of the returning articles of foreign manufacture. Include on the packing list the following statement: "Science equipment was used in Antarctica to conduct research for the United States Antarctic Program, National Science Foundation."

The Cargoperson Senior Sr. at Palmer Station, or the Marine Project Coordinator (MPC) aboard the research vessel, will be available to assist in the preparation of retrograde cargo and documentation; however, each grantee is responsible for packing, marking, and documenting his or her own containers. The Materials Person or MPC will compile a manifest of the entire retrograde shipment, attach the Forms 3299, all permits, and attach a list of all foreign-made articles in the shipment. Copies of these will be forwarded with the shipment for clearance preparation to both the Agent either in Chile, New Zealand, or other country with the shipment, and Port Hueneme in the U.S. All retrograde cargo being shipped must be turned in to the Materials Person or MPC no later than 48 hours prior to the ship's arrival at the station or port.

R/V NATHANIEL B. PALMER CARGO BEING OFFLOADED AT MCMURDO STATION FOR RETROGRADE

Cargo that is offloaded at McMurdo Station for further forwarding to the United States will be sent via the Resupply Vessel which departs McMurdo Station in February. Retrograde cargo requiring air movement from McMurdo Station must have prior approval of the NSF Representative at McMurdo Station. Forwarding arrangements for cargo coming off the ship in McMurdo are to be initially arranged through the vessel MPC well in advance of arrival in McMurdo. All retrograde cargo coming off the research vessel should be turned over to the MPC or their designee on board the vessel at least 48 hours prior to the ship's arrival to McMurdo.

Dear Participant,

In order for us to better serve you, we encourage feedback about our logistics system. Positive feedback tells us what satisfies our customers or meets their needs; constructive criticism highlights problem areas that may require our action to improve grantee support. We ask for both. Points of contact concerning any issues are the Director of Logistics, the Manager of Logistics,

and the Manager of Antarctic Terminal Operations. I wish you the best of success in your Antarctic research.

Sincerely,

Mike Embree
Director of Logistics

Raytheon Polar Services Company
61 Inverness Drive East, Suite 300
Englewood, CO 80112
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1-800-688-8606, ext. 3902

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