Raytheon
Polar Services

Packing & Shipping Instructions

28 July 2011

LO-A-100
Revision 15.0
Risk Factor 1

United States Antarctic Program

National Science Foundation
PRSS 0000373

Office of Primary Responsibility: Supply Chain Management

Offices of Corollary Responsibility: Area Directorate, DSG, Science Support

Printed in the U. S. A.

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Revision Change History

Rev	Date	Section	Author	Change Details
9.0	1 June 2007	ALL	USAP Cargo, Supr.	Update vessel ROS dates, for South Pole. Clarify Direct Commercial Shipping procedure. Revise Radioactive Consignment (NZ) and direct shipping address.
10.0	11 July 2008	ALL	USAP Cargo, Supr. with PMO (DTW)	Convert to current document format; add **Mandate** & **Authority**. Revise shipping dates for upcoming season. Incorporate *Direct Commercial Shipping*. Update phytosanitary requirements with IPPC requirements which replace APHIS standard. Expand details on hazardous materials, clarify hand-carried samples & refrigerant, and travel by COMAIR in retrograde with science samples. Clarify source material for exports under the U.S. Dept. of Commerce. Incorporate changes for **MOCA** at McMurdo Sta. (delete form LO-M-193). Excess baggage waiver. Specify weights & metric equivalents; list related documents; expanded *Glossary*.
11.0	22 September 2008	App. 2	Director, LOG TWS (PMO)	Senior management verifies costs from actuarial rate table. Incorporate all changes submitted to date.
12.0	15 May 2009	ALL	USAP Cargo, Supr. Península Logistics Supr.	Annual update with notes from last season. Revise shipping dates for upcoming season. Revised the Baggage Allowance for USAP Participants.
13.0	9 June 2010	ALL	USAP Cargo Supr.	Incorporated changes from special experts across the Program, during annual update.
14.0	11 May 2011	ALL	USAP Cargo Supr.	Complete updates following post season review.
15.0	July 2011	ALL	Director, Supply Chain Management	Update DNF details during annual review. Incorporate section for intermodal shipping containers. Include changes from DHS.
	27 July 2011	ALL	SCWhite	This document meets all criteria for contract close-out and transition document review.

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Introduction

This manual contains instructions for documenting, packaging, marking, and shipping materials to-and-from all USAP locations, and research vessels. 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 logistic streams to Antarctica are some of the longest and most difficult cargo distribution routes in the world. The distance, the few transportation modes, customs inspections through several countries, frequency of delivery, and volume limitations, all contribute to difficulties planning on-time delivery of needed materials.

Because of these transportation difficulties, advance planning is critical.

Your actions are the first of many in a long logistics pipeline. Improper documentation, poor packaging or labeling, failure to meet the required delivery dates — whether at Port Hueneme, CA Punta Arenas, Chile, or directly to Christchurch, New Zealand — all can result in delay, which could jeopardize the accomplishment of planned work.

All cargo receives normal handling, which is generally rough treatment characteristic of stevedoring and transportation aboard ocean going vessels. Cranes and forklifts are used for loading and unloading. To ensure safe arrival, all material should be packaged anticipating the rigors associated with transport by land, sea, and air over several continents. Pack with greater care and mark all containers to indicate contents which may be sensitive to impact, temperature, moisture, orientation (e.g., “This End Up”), etc.

All shipping costs for processing and transport between point of origin and Port Hueneme, CA, are borne by the Principal Investigator's grant. The USAP contractor pays for shipping costs between Antarctica and the Continental United States (CONUS). If you must exceed weight allowances preapproved in the Support Information Package (SIP), you will need prior authorization from the National Science Foundation (NSF).

These are the typical methods for shipping to Antarctica, in order of most cost efficient:

- Resupply vessel from Pt. Hueneme, CA
  to New Zealand, McMurdo Station, South Pole Station
- Commercial Surface (COMSUR)
- Commercial Air (COMAIR)

Note Refer to *USAP Transportation Costs and Planning Factors* for additional planning information.

Mandate

The mandate for handling cargo comes from the prime contract PRSS 0000373, section C3.2.2 *Logistics*:

> Contract management responsibility to move program participants to and from Antarctica; transport the supplies and equipment needed to operate the stations, camps and vessels; control inventories at the stations; and operate and maintain staging areas in California, New Zealand, and Chile.
> Logistics support is central to the success of the USAP. Everything required to sustain life in Antarctica must be imported while any planned activity on the continent or onboard a research vessel is totally dependent on a logistics network.

That same source includes mandate for the following services:

- C7.2.1 *Logistics Management*
- C7.2.6 *Port Hueneme Operations*
- C7.2.6.2. *Freight Carriers*
- C7.2.6.3 *Air Cargo Operations*
- C7.2.6.6 *Hazardous Cargo*
- C7.2.6.7 *Retrograde Operations*
- C7.2.7 *New Zealand Operations*
- C7.2.7.9 *Port Operations*
- C7.2.8 *South America Operations*

Note PRSS 0000373 section C6 refers to CTS, PTS, and ORT. This manual covers packaging and shipment of material reported in those systems. Further details on operating those systems are included in other manuals.

The NSF is required by the Office of Management and Budget (OMB) Circular A-123 *Management's Responsibility for Internal Control*, to maintain an effective and efficient internal control environment over its property, plant and equipment. This procedure helps provide for reporting to maintain those controls by following General Accounting Office (GAO) *Standards for Internal Control in the Federal Government*. Also refer to Federal Acquisition Regulations (FAR) Part 44, *Government Property*, which applies to reporting and record keeping requirements of Government owned property.

Note Any commercial procurement action shall meet the applicable FAR.

The prime contract PRSS 0000373 section F-8 *Management Manuals* expects procedural manuals of this kind to support all facilities and operations throughout the Program. This manual meets that requirement.

Authority

The NSF contract PRSS 0000373 provides requirements for USAP operations, to include the South Pole Station. These are summarized as citations, under *Standards & Regulations*, section C4.3 of the contract.

Further, information presented here is mandated by ISO 9001:2000:

- 4.2.2 *Quality Manuals*
- 4.2.4 *Control of Records*
- 5.5.1 *Responsibility & Authority*
- 6.2.2 *Competence, Awareness & Training*
- 7.5.4 *Customer Property*

This manual provides a consolidated information source for Supply Chain Management.

Risk

This manual is assigned a risk factor of 1.

The preparation and shipment of materials to-and-from Antarctica is a complex process. Failure to meet the packing and shipping requirements described here could result in significant cargo delays or cargo damage. Failure to meet the packing and shipping requirements could lead to U.S. or foreign regulatory violations to impact research and station operations or budgets.

While the shippers are responsible for meeting shipping requirements, failure to provide for logistic support would be a specific contract non-compliance. Therefore, the contents of this manual are considered in the highest risk category.

Note Risks associated with these procedures are addressed further in other sources. Refer to the *Port Hueneme Operations* manual (LO-H-500).

Port Hueneme, CA

Through contractual arrangements with Raytheon Polar Services Company (RPSC), the Port Hueneme Operations Manager is responsible for the receipt and movement of all USAP cargo shipments going to or returned from Antarctica. Material going to Antarctica is first processed at Port Hueneme Operations (California) where it is entered into the USAP transportation system.

The Port Hueneme Operations Manager is the point of contact (POC) for all matters related to processing outgoing cargo, and can be reached at this address:

Freight:

National Science Foundation
c/o Raytheon Polar Services, Port Hueneme Operations
Naval Base Ventura County
Building 471, North End
Port Hueneme, CA 93043

Correspondence:

National Science Foundation
c/o Raytheon Polar Services, Port Hueneme Operations
P.O. Box 338
Port Hueneme, California 93041

Telephone:

805-985-6851
800-688-8606, x33601

Fax: 805-984-5432

e-Mail:

PH-CargoOps@usap.gov

Indirect Air Carrier

Federal Aviation Administration (FAA) regulations require the Port Hueneme Operations Manager to sign a *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 Port Hueneme Operations Manager is responsible for preventing the unauthorized addition of explosives or hazardous materials to contents. The unauthorized shipment of hazardous materials via air carriers subjects the shipper to a personal liability of $25,000 and/or up to five years in jail, or both. This penalty applies to the individual who certified the shipment for air transport along with the shipper's employer.

CAUTION	All cargo is subject to inspection before entering the USAP Cargo stream. Finding undeclared hazardous materials can delay or prevent shipment.

Therefore, each container arriving at the Port Hueneme Operations facility is subject to inspection before it can be forwarded to Antarctica. 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 carriers, and take longer to reach their destination. Similar restrictions apply to retrograde shipment *from* Antarctica.

South Bound Cargo Shipping

All USAP participants should send all shipments to Port Hueneme Operations for transport to Antarctica. It is the most reliable method for delivery, and for tracking shipments to USAP research sites. Cargo entering the USAP Cargo stream at Port Hueneme is assigned a Transportation Control Number (TCN). The TCN is used to management the movement and staging of cargo just as a FedEx number is used to track movement of material shipped by this mode. The TCN can also be used for tracking, and identify the location of items in the cargo stream.

Contact Port Hueneme Operations before shipping any unique or unusual cargo, anything very large or unusually heavy, any odd-sized cargo, and any intermodal container cargo. Provide them with your shipping information so they can prepare for receiving and transshipment. If any special handling is needed, Port Hueneme Operations will know the requirements you would have to meet. If you have questions, call first.

Address for Cargo Shipments

Use the following address and information for cargo shipments to Port Hueneme. The information should be stenciled on each box; or the address may be typed onto 3”x5” white cards attached to each box or item. Make sure this information is clear and legible:

National Science Foundation

c/o Raytheon Polar Services
Naval Base Ventura County, Port Hueneme
Bldg 471 — North End
Port Hueneme, CA 93043

ATTN: USAP `<station abbreviation>`
`<Station code>`
`<Grantee>`
`<Event number>` or `<Project code>`
`<ROS>`

Note Everything in brackets (above) will be specific to your project or deployment.

Example Address

This is merely an example of an address, from a fictitious project:
National Science Foundation
c/o Raytheon Polar Services
Naval Base Ventura County, Port Hueneme

Bldg 471 — North End
Port Hueneme, CA 93043

ATTN: USAP — NPX
DR3
E. Rutherford
A-404-S
9359

Station Abbreviations and Station Project Codes

Table 1: Station Abbreviations & Station Project Codes

Antarctic Station	Station Abbreviation	Science Station Code	RPSC Station Code
McMurdo Station	ZCM	DR1	DW1
South Pole Station	NPX	DR3	DW3
Punta Arenas, Chile	PUQ	DR4	DW4
Palmer Station & Peninsula	PAL	DR7	DW7
RV/IB *Nathanial B. Palmer*	NBP	NBP	NBP
AR/SV *Laurence M. Gould*	LMG	LMG	LMG

Shipping cargo outside of the USAP to an Antarctic gateway such as Christchurch, New Zealand, or Punta Arenas, Chile, may encounter delays in customs inspections, or other unforeseen reasons. These are beyond USAP control. The NSF and RPSC have instituted shipping procedures in order to reduce or eliminate delays in shipping materials to Antarctic research sites.

If shipping directly to a gateway destination is unavoidable, be sure to explain that to your Science Planning and Support Manager point-of-contact (POC). Follow their direction. They may advise you to contact the Manager, Port Hueneme Operations, for further instruction.

Shipping to Port Hueneme from Foreign Locations

Equipment shipped from a foreign country, then through the U.S. to Antarctica, is still entering the U.S. as imported material. When entering the United States, complete *U.S. Customs Transportation Entry* (T&E) form 7512. The form is available online:

http://www.customs.gov/xp/cgov/toolbox/forms/

There may be other forms required. When shipping foreign goods through the U.S., use a recognized customs broker to prepare the required documentation to forward these shipments. You must make prior contact with the Port Hueneme Operations Manager to facilitate processing through U.S. Customs and shipment onward to Antarctica.

Cargo consigned to the USAP at Port Hueneme will be re-exported from Port Hueneme, California (NBVC), which is covered by U.S. Customs. To clear inspections by the Department of Homeland Security (DHS), make sure the NSF is listed as consignee for these shipments. Start T&E shipments early enough to allow for occasional short delays, while the carrier arranges local delivery witnessed by U.S. Customs officials.

CAUTION When shipping by truck, Port Hueneme Operations must have the driver's name seven (7) working days in advance to arrange clearance through the Department of Homeland Security (DHS) for delivery to NBVC.

All cargo shipments from foreign countries to Port Hueneme, CA, must be shipped prepaid from point of origin. All transportation charges including surface or air cargo in the U.S., freight-forwarding fees, and brokerage commissions must be prepaid.

Canada

All shipments from Canada or Canadian vendors should be shipped by air to Port Hueneme. Try to use standard U.S. shippers such as FedEx or UPS. If cargo moving to or from Canada is shipped by truck we strongly recommend using FedEx, UPS, or YRC.

Register Foreign Manufactured Articles

To avoid being subject to U.S. Customs payments, or delayed re-entry into the United States, all foreign manufactured articles leaving the U.S. should be registered with U.S. Customs. Obtain and complete a *Certificate of Registration of Foreign Manufactured Item*, U.S. Customs form 4455. Forward the completed form to the Manager, Port Hueneme Operations, with the shipment of the materials. On that form, be sure to include complete descriptions, model numbers, and serial numbers. Also, provide the country of origin for each item shipped.

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

Importing Technical Equipment to New Zealand

Participants traveling through New Zealand planning to hand carry high-value technical equipment need to complete a New Zealand Customs Form 33.

Note Copies of New Zealand Customs Form #33 are available from the Deployment Specialists Group (DSG). Be sure to have Form 33 completed before departure.

- The form is non-transferable. New Zealand requires the individual whose name appears on form 33 be the same person to clear the item through Customs.
  - — If in possession of high-value technical equipment without form 33, the individual (not the USAP) may be charged with import duties, fines, or that equipment may be seized.
- If you plan to have one individual carry equipment down during deployment and another carry it back on redeployment, you need two forms. A form must be issued for each carrier.
- Employees and contractors who carry equipment from DHQ also need a *Temporary Property Hand Receipt* (FI-A-017) in addition to New Zealand Customs Form 33. These are also nontransferable.
  - — Return the equipment with the *Hand Receipt* to DHQ.

— If the equipment will stay in Antarctica, notify property management on station by e-mail, so they can transfer the equipment to station inventory.
Route the *Hand Receipt* to Property Admin as attachment to property records.

Note Laptop computers are *generally* exempt from this classification.
For your individual deployment,. check with the Deployment Specialists Group (DSG).

Direct Commercial Shipping

All USAP participants should use the NSF Port Hueneme facility for cargo shipments southbound to Antarctica. It is the most reliable method for delivery, and for tracking shipments to Antarctic research sites. However, you may ship directly overseas.

Contact Port Hueneme Operations before shipping anything which may be very large or unusually heavy, any odd-sized cargo, loaded intermodal containers, and any unique or extremely valuable cargo. If you have a large volume of cargo, contact Port Hueneme Operations before you begin shipping. Port Hueneme has several options and expert services to offer in USAP support. They may need advance notice for special support of your special cargo. They may be able contact special carriers in your area.

This will help them locate and track the cargo during shipment. This will help them prepare for receiving the cargo, in case any special handling is needed. It also helps process items which may need transshipment onward to the final destination.

In some situations it may be more practical for cargo originating outside the United States to be shipped directly to New Zealand or South America. In these cases please consult with Port Hueneme Operations for advice and to coordinate delivery.

Note Neither the NSF nor RPSC can be responsible for commercial shipments sent directly to these destinations.

Recent changes in Transportation Security Administration (TSA) security policy may affect your direct cargo shipments. Please consult the TSA website to determine if additional information or measures are required for you to ship your cargo outside of the USAP supply chain. For more information please refer to the *Air Cargo Security Changes* letter issued by the TSA:

http://www.tsa.gov/what_we_do/layers/aircargo/07102006_changes.shtm

To avoid Customs delays, put these instructions below the address:

FOR FURTHER SHIPMENT TO ANTARCTICA
<name>
<station abbreviation>
<station code>
<Grantee>
<Event number> or <Project code>
<ROS>
<box of number-of-boxes> for instance, “Box 1 of 4”

Preparing material for direct commercial shipping is the same as preparing for shipment in the USAP supply chain — refer to other sections in this manual.

Be sure to notify the USAP representatives at the destination that you have shipped material to the addresses listed below. Ensure that the 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. The following information must be identified on all correspondence:

- Master Airway Bill Number (MAWB)
- flight number
- departure dates
- Bill of Lading numbers (COMSUR)
- number of boxes
- contents of each box
- commercial value in US$

It is strongly recommended that the shipper confirm receipt of all communications with the transportation terminals listed below.

New Zealand

For shipments to New Zealand, please e-mail CHC-CourierNotifications@usap.gov for advice and assistance.

You must forward the original paperwork for shipments to New Zealand:

e-mail: CHC-CourierNotifications@usap.gov
FAX: +64-3-358-1479
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. The following information must be identified on all correspondence:

- Master Airway Bill (MAWB) number
- flight number
- departure dates
- Bill of Lading numbers (COMSUR)
- number of boxes
- contents of each box
- commercial value in US$

> **Note** Some companies, such as *Federal Express* in New Zealand, do not operate 24 hours a day, and are closed on weekends — which may affect how quickly items can be delivered to our Christchurch cargo operation.

Use this address for shipping directly to New Zealand:

National Science Foundation
c/o Raytheon Polar Services, Limited
Gate 1, Orchard Road North
Christchurch International Airport
Christchurch, New Zealand

Tel: +64-3-358-8139
FAX: +64-3-358-1479

Note All direct shipments must be sent Pre-Paid.

Chile

For surface shipments, a first original copy of the Bill of Lading is required as FAX to the South American agent, AGUNSA.

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. The following information must be identified on all correspondence:

- Master Airway Bill (MAWB) number
- flight number
- departure dates
- Bill of Lading numbers (COMSUR)
- number of boxes
- contents of each box
- commercial value in US$

Use this address for shipping directly to Punta Arenas, Chile:

Manager, Punta Arenas Operations
AGUNSA
Deposito Franco Zona Antarctica
Agencias Universales S.A.
Punta Arenas, Chile

Tel: +56-61-247-503
FAX: +56-61-226-095

Preparing Cargo for Shipment

During the shipping process, your equipment and material will receive treatment characteristic of stevedoring operations. Delicate or sensitive equipment must be well packed and protected by means of the packaging used. Grantees and their packing agents should not only give consideration for providing additional packing, but should also consider the type of materials utilized for shock-absorbent packing.

Packing Material

Avoid using materials that are not easily degradable. That includes most plastics, especially polystyrene cushioning materials (common packing peanuts).

CAUTION Polystyrene packing peanuts are banned under the *Antarctic Conservation Act*. Do not use any polystyrene packing material.

Do not use polystyrene, polyurethane foam, or silicone sponge. Suitable alternatives are bubble wrap, shredded paper, corrugated cardboard, burlap, and packing tissue. Paper products are more easily recycled, and therefore, more suitable for shipping material to Antarctica. There are other restrictions on other packing material.

Some cargo shipments have been delayed on entry to both New Zealand and Chile, due to the condition of the packing crates, when the outside material failed inspection. Wooden packaging material (WPM) like pallets, crates and boxes are often reused to return material to the United States, which has some of the strictest requirements.

Wood Packing and Lumber Material, New Zealand

The New Zealand government has strict controls and diligent inspections for importing any wood products. They require clearance for imported timber, and forest products of any kind — sometimes with quarantine restrictions. All shipments of lumber must be accompanied by a certificate from the manufacturer stating the extent and level of any treatment process.

Inspections are conducted by the Ministry of Agriculture and Forestry (MAF) to prevent accidentally introducing any insects or fungi that could damage New Zealand forests and timber industry. These inspections include all wooden and plywood packing cases: crates, pallets, wood packing blocks, and dunnage. All wood products must be free of bark and visible signs of insects, worms, or fungi.

Note Particleboard is not an acceptable packing material, because it hides surfaces which may show possible contamination.

Wood products which can not be verified as being free of contaminants will be stopped at the port of entry and dealt with as directed by an MAF inspector. Grantees and their shipping agents should ensure all packing material conforms to New Zealand regulations:

1. Wood packaging must comply with the import requirements.
2. MAF will *risk profile* the whole shipment and select a subset for inspection.

3. Any untreated or uncertified wood packaging found will be refused entry, or treated as required, or destroyed — regardless of whether pests are found.
4. A notice of non-compliance will be issued for any untreated or uncertified wood packaging.
5. Information from these non-compliances will feedback in to the risk profiling system — meaning that importers who develop a history of non-compliance will be selected for inspection more frequently; further delaying cargo.

For more information on the standard, please refer to the MAF website at http://www.biosecurity.govt.nz

Wood Packing Material, Chile

The government of Chile has strict controls on importing wood products.

Grantees should be sure that all wooden crates used for shipping through Chile, to Palmer Station and the Antarctic Peninsula area, are in good condition without stains or signs of fungi. An agriculture stamp indicating the wood is free of contamination will help expedite clearance through Customs.

Wood Packing Material, United States

The following regulations have been put in place by the U.S. Department of Agriculture (USDA) on all wood packing materials entering the United States. Please be aware that wood packaging materials used to ship cargo to Antarctic field sites must comply with these regulations in order to be returned to the United States, as repackaging material or recycled material — all material in retrograde movement from Antarctica.

Wooden packaging material (WPM) like pallets, crates & boxes entering the U.S. must be treated or fumigated with methyl bromide and marked with the International Plant Protection Convention (IPPC) logo. Effective 16 September 2005, the same requirements apply to regulated WPM arriving in the U.S. Also refer to WPM guidelines published by USDA Animal and Plant Health Inspection Service (APHIS): http://www.aphis.usda.gov/

Wood packing materials destined for the U.S. must comply with this statement:

> The wood packaging materials used in this shipment are in compliance with the International Standards for Phytosanitary Measures, Publication 15, March 2002 (ISPM 15). The material used consists of processed wood material and solid sawn wood subjected to the approved heat treatment. Those packages that use heat treated wood have been certified as being compliant with ISPM 15 and the Internal National Plant Protection Convention (IPPC) and are so marked by an approved and inspected agent (Number US-4522) of the American Lumber Standard Committee.

Packing Containers

As often as possible, pack reusable containers with hinged, clamped, or screw-fastened tops — most *especially* if items are to be returned or reused in retrograde.

Containers should be made to withstand hard contact, sharp corners, crushing weight, and shock sustained by rough handling in transit; in the warehouse, aboard ship, and on

station. Use sturdy material, well fastened, securely braced and reinforced. All boxes and containers should be banded with steel straps or *Cordstrap*. The number of straps depends on the size of the box, but at least two straps per box.

CAUTION	All participants must be aware of the very rough conditions which may be encountered by material during transport.

Some plastic containers may not be suitable for use in extreme cold where they become brittle. Plastic containers may crack or break. Remember Antarctica when choosing a container, and the environmental conditions which may be found. It is a harsh continent.

Conditions

Insulated containers may be appropriate if they will eventually be used for retrograde material that must be kept frozen (KF) or keep chilled (KC).

Material is often exposed to excessive moisture and temperature extremes during storage and transportation. Also, it is common for condensation to build up inside boxes during shipment, especially retrograde from South Pole Station to McMurdo Station, or to Palmer Station on vessels.

Primary shipment to Antarctica is on-board ocean going vessels, subject to ocean conditions in transit, which can not be predicted. Therefore, it is necessary to pack for extremely rough handling and various weather conditions.

Weight & Volume

Crates weighing over 100 pounds must be palletized for safer cargo handling. Also consider the total volume of the box, and do not pack anything over 125 cubic feet (5x5x5 feet). Crates larger and heavier may restrict handling and cause materials to be delayed.

Extremely small boxes may also pose a problem. They are difficult to account for in a cargo cache, or the cargo hold of a ship. Avoid boxes smaller than 12 inches on a side. Many small boxes can be packed together and then shipped more readily.

Any air cargo longer than 125 inches (10 ½ feet, or 3.2 m) must be sent via cargo carrier. Sometimes, mail or air cargo can be expedited on passenger aircraft. However, certain sizes can only be flown by cargo carriers.

- longer then 125” (10 ½ feet, or 3.2 m)
- wider than 96” (8 ft. or 2.4 m)
- more than 64” (5 ¼ ft. or 1.6 m) high

Marking and Labeling

Mark all boxes and crates in a distinctive and obvious manner. Use a stencil or permanent marker, bold and clear. Make sure the marking is impervious to water and weather.

Use consecutive numbers for more than one box in the same shipment; i.e. “Box 1 of 4.”

A detailed packing list should be created and attached to the outside of each box or e-mailed to PH-CargoOps@usap.gov. Be sure to describe the contents, especially any hazardous materials, list the event number, use the Antarctic station abbreviation, give the ROS date, and any temperature requirements or special handling needed.

Details of the contents must include model and serial numbers for any valuable or durable equipment, and the U.S. dollar amount (US$) for all items. Please be as specific as possible to prevent any problems.

If boxes or crates are re-used from previous seasons in Antarctica or other locations, remove any old labels, barcodes, and markings to prevent delays or misdirection.

Note "Scientific Equipment" is not an acceptable description for a packing list, and may result in delays clearing Customs.

Required Documentation

Provide the Manager, Port Hueneme Operations, with a copy of your shipping information by e-mail (PH-CargoOps@usap.gov) or FAX. You may send a Bill of Lading or an Air Waybill. Make sure that the information is clear and concise. You must indicate the delivering carrier, shipment number, piece count, date departed, scheduled delivery date, and total weight. In addition, forward copies of the detailed packing lists which outline the contents in each package, which were attached to each box.

Contact Port Hueneme Operations before shipping any unique or unusual cargo, anything very large or unusually heavy, any odd-sized cargo, and any intermodal container cargo. Provide them with your shipping information so they can prepare for receiving and transshipment. If any special handling is needed, Port Hueneme Operations will know the requirements you would have to meet. If you have questions, call first.

Special Handling

Some items will require specific treatment. We must prevent some contents from freezing, and other contents which must not thaw. Boxes will need to be kept upright, or protected from energy sources.

Special handling instructions must be marked outside the box. Appropriate and bold labels or stencils should provide cargo handlers with instructions. Common examples include the following:

FRAGILE	DO NOT DROP
DO NOT X-RAY	KEEP DRY
KEEP FROZEN	DO NOT FREEZE

Do Not Freeze

Some cargo can not tolerate freezing. Some materials become very brittle when they get cold. Certain cargo can not tolerate constriction or shrinkage which occurs at freezing temperatures. Some food stuffs will spoil if allowed to freeze. some computer equipment or digital components can be ruined by freezing, at extreme temperatures in Antarctica. Batteries and some chemicals can be rendered useless if subjected to these extreme temperatures.

There are size restrictions on DNF cargo:
48" x 45" x 40" (L x W x H) 122 cm x 114 cm x 102 cm

This is roughly the size of a standard tri-wall container used in the USAP Airlift. Larger DNF items may be shipped through the USAP Transportation system, but only with significant business justification or science need provided in writing in advance. With that, further arrangements need to be made with the Port Hueneme Operations Manager.

In addition to size restrictions, the NSF has mandated that under no circumstances shall DNF cargo be mixed in the same box with non-DNF cargo. Heated storage is very limited in Antarctica, and mixing cargo may result in DNF material being stored outside. While that would not be a problem in Port Hueneme, it would be a significant failure at the South Pole.

Note DNF cargo may be inspected at any point in the USAP Transportation system. Items will be segregated at the start of the logistics train in Port Hueneme, to prevent repacking items once on the Ice.

After the DNF cargo is processed through Port Hueneme Operations, follow these procedures to ensure that cargo is not damaged by freezing temperatures.

Marking

For ready identification and continuity throughout the USAP Transportation system, mark temperature restricted items as DO NOT FREEZE (DNF).

Mark DNF cargo on the box used for shipping. Make a square field in black, with distinct white letters to say DO NOT FREEZE; or use appropriate DNF stickers. Mark DNF on all four sides — not on top or bottom.

Include all the other cargo markings and required documentation.

Southbound COMAIR

For McMurdo Station, DNF cargo is turned over to the freight forwarder for commercial flights to New Zealand. On arrival at the Air Cargo Yard in Christchurch NZ, cargo is palletized and transported via the USAP Airlift. At McMurdo Station, DNF cargo is placed in a temperature controlled warehouse environment until delivered to the grantee or appropriate work center.

For South Pole Station, DNF cargo is turned over to the freight forwarder for commercial flights to New Zealand. On arrival at the Air Cargo Yard in Christchurch NZ, cargo is palletized and transported via the USAP Airlift through McMurdo Station. DNF cargo is

placed in a temperature controlled warehouse environment until manifested on a flight to South Pole Station. On arrival at the South Pole DNF cargo is also kept in a temperature controlled environment until turnover to the grantee or RPSC work center.

Peninsula Logistics

For Peninsula Logistics DNF cargo is shipped to AGUNSA in Punta Arenas, Chile. On arrival it is stored in a temperature controlled warehouse environment until containerized for transport to Palmer Station, or loaded as break bulk cargo on the research and support vessel.

Note All DNF cargo for the peninsula area is loaded on the vessel and stored in temperature controlled areas on a lower deck.

Northbound COMAIR

At McMurdo Station turn over DNF cargo to the USAP Cargo office for processing as retrograde shipment to the final destination. When processed, DNF cargo first goes to the Movement Control Center (MCC) to be palletized for travel to the airfield and transport to New Zealand. On arrival in Christchurch, DNF cargo is held in the Air Cargo Yard until turned over to the freight forwarder and manifested on a commercial flight to Port Hueneme Operations. On arrival at the Port Hueneme shipping terminal they confirm shipping mode and information from the grantee, then move DNF cargo to final destination as addressed.

At South Pole Station DNF cargo is turned over to South Pole Cargo for processing as retrograde shipment to final destination. If you have a significant amount of DNF cargo, South Pole Cargo must be notified in advance. They must have time to prepare necessary heated storage at the South Pole. Then the cargo can be processed, palletized, and transported to McMurdo Station.

On arrival at McMurdo Station, DNF cargo is first moved to a temperature controlled warehouse environment. With appropriate DNF markings and labeling, DNF cargo is processed at the MCC, palletized, and shipped to the Air Cargo Yard in Christchurch. From New Zealand, DNF cargo is turned over to the freight forwarder and manifested on a commercial flight to Port Hueneme Operations. On arrival at the Port Hueneme shipping terminal they confirm shipping mode and information from the grantee, then move DNF cargo to final destination as addressed.

Peninsula Logistics

For Peninsula Logistics DNF cargo is kept in the temperature controlled GWR Garage at Palmer Station until the day scheduled for loading on the research or support vessel. At Palmer Station, all DNF cargo is packed in an intermodal shipping container or loaded as break bulk. All DNF cargo from the peninsula area is loaded on the vessel and stored in temperature controlled areas on a lower deck. On arrival at Punta Arenas, DNF cargo is transferred to a Keep Warm facility with AGUNSA until arrangements are made for commercial air shipment to Port Hueneme Operations. On arrival at the Port Hueneme shipping terminal they confirm shipping mode and information from the grantee, then move DNF cargo to final destination as addressed.

Southbound COMSUR

Port Hueneme Operations loads all science related DNF cargo in an intermodal container and manifests the container for surface vessel to Christchurch, New Zealand. Cargo is off-loaded from the ocean vessels in Port Lyttelton, New Zealand. On delivery to the Air Cargo Yard in Christchurch, DNF cargo is unloaded from the container, palletized, and transported to McMurdo Station via USAP airlift. On arrival at McMurdo Station, DNF cargo is placed in a temperature controlled warehouse environment until delivered to the grantee or work center.

South Pole Station

For South Pole Station, DNF cargo is turned over to the freight forwarder for commercial shipping to New Zealand. Ocean vessels are off-loaded in Lyttelton, New Zealand, and trucked about 20 km (12 miles) to Christchurch International Airport. DNF cargo is palletized at the Air Cargo Yard and transported via the USAP Airlift to McMurdo Station. There, DNF cargo is placed in a temperature controlled warehouse environment until manifested on a flight to South Pole Station. On arrival at the South Pole DNF cargo is quickly moved to a temperature controlled environment until turnover to the grantee or RPSC work center.

Peninsula Logistics

For Peninsula Logistics DNF cargo is kept in the temperature controlled GWR Garage at Palmer Station until the day scheduled for loading on the research or support vessel. At Palmer Station, all DNF cargo is packed in an intermodal shipping container or loaded as break bulk. All DNF cargo from the peninsula area is loaded on the vessel and stored in temperature controlled areas on a lower deck. On arrival at Punta Arenas, DNF cargo is transferred to a Keep Warm facility with AGUNSA until arrangements are made for commercial shipping to Port Hueneme Operations. On arrival at the Port Hueneme shipping terminal they confirm shipping mode and information from the grantee, then move DNF cargo to final destination as addressed.

Resupply Vessel

Port Hueneme Operations loads all science related DNF cargo into refrigerated containers set at 4°C (39.2°F) to ensure temperature control while being transported on the resupply vessel. If refrigerated containers are not available, DNF cargo is offloaded in Lyttelton, New Zealand, and trucked 12 miles to Christchurch for airlift to McMurdo Station.

1. After the resupply vessel is loaded, reports are generated by the Marine Terminal Supervisor to ensure all DNF cargo has been identified. Cargo disposition is determined based on the following criteria and distributed to the resupply vessel off-load team for full situational awareness.
    A. Criteria for determining DNF cargo disposition:
        i. size and scope of cargo
        ii. DNF storage capacity on station

Note There is limited DNF warehouse space at McMurdo Station.

iii. number of refrigerated container power plug-ins on the resupply vessel or stated insufficient number of plug-ins to support DNF refrigerated containers.

Note Priority for plug-ins goes to temperature sensitive food.

iv. refrigerated container capacity at McMurdo Station

Note The number of power receptacles available for refrigerated containers is limited on station.

2. Should one or more criteria restrict the transport of DNF cargo on the resupply vessel to McMurdo Station, that cargo is off-loaded in Lyttelton, New Zealand and transported to McMurdo Station via USAP airlift. On arrival at McMurdo Station, DNF cargo is placed in a temperature controlled environment until ready to be received by the grantee or wok center.

Before the resupply vessel arrives at McMurdo Station in February, McMurdo Supply provides a report to the USAP Logistics Manager attesting that all DNF cargo has been identified and appropriately planned for recovery and storage in a warm environment at McMurdo Station.

Retrograde Resupply Vessel

From McMurdo Station DNF cargo is turned over to USAP Cargo for processing for retrograde shipment. USAP Cargo personnel load all DNF cargo in refrigerated containers set at 4°C (39.2°F) to ensure temperature control while being transported on the resupply vessel bound for Port Hueneme, CA.

If refrigerated containers are not available, DNF cargo is moved to the MCC. There, DNF cargo is palletized for air transport to the Air Cargo Yard in New Zealand. Upon arrival in Christchurch, DNF cargo is loaded in regular MilVans and manifested for the resupply supply vessel when it stops at Port Lyttelton. The resupply vessel continues from there to Port Hueneme CA. At the Port Hueneme shipping terminal personnel confirm the shipping mode and delivery information from the grantee, then moved to the final destination.

From the South Pole, DNF cargo is turned over to South Pole Cargo for processing as retrograde material. When processed at the South Pole DNF the cargo is palletized and transported to McMurdo Station. On arrival, DNF cargo is moved into a temperature controlled warehouse environment. From the MCC USAP Cargo personnel load DNF cargo in refrigerated containers set at 4°C (39.2°F) while being transported on the resupply vessel bound for Port Hueneme, CA.

If refrigerated containers are not available, DNF cargo is moved to the MCC. There, DNF cargo is palletized for air transport to the Air Cargo Yard in New Zealand. Upon arrival in Christchurch, DNF cargo is loaded in regular MilVans and manifested for the resupply supply vessel when it stops at Port Lyttelton. The resupply vessel continues from there to Port Hueneme CA. At the Port Hueneme

shipping terminal personnel confirm the shipping mode and delivery information from the grantee, then moved to the final destination.

Intermodal Shipping Containers

Intermodal cargo transportation includes shipping freight in containers which can be moved between different modes of transportation (rail, ship, truck) without any handling of the freight itself between modes. For instance, container shipments can move from an ocean vessel to the USAP Airlift without being unloaded and repacked. Intermodal shipping reduces cargo handling, improves security, reduces damages or loss, and allows freight to be transported faster. The International Organization for Standardization (ISO) maintains container requirements, which were first based upon original DoD standards.

There are instances when science equipment is received at Port Hueneme Operations is loaded intermodal shipping containers for transshipment to Antarctica. There are many different kinds and brands of Intermodal shipping containers, which include the following ISO certified and approved shipping containers:

- hi-cube
- ConEx box
- MilVans

When using preloaded intermodal containers, grantees must notify the Port Hueneme Operations *Manager* in advance, to receive specific instructions.

For instance, if the container includes DNF cargo for the project, the shipper is required to use a refrigerated container. If a powered refrigerated container is not available, you must ship DNF cargo separately. DNF cargo might be transshipped via COMAIR or COMSUR as determined by the Port Hueneme Operations Manager.

Note All DNF cargo for McMurdo Station or the South Pole must be loaded in a refrigerated intermodal container or shipped separately from the container.

Port Hueneme Operations will visually verify the contents of each container for seaworthiness, to include the proper blocking and bracing of cargo for transport. This inspection will be documented and reported to the grantee and RPSC management.

To accurately detail requirements for certifying an intermodal container for seaward transportation to Antarctica, these are the current MILSPEC certification guidelines:

- MIL-STD-2073-1D *Standard Practice for Military Packaging*

  https://acc.dau.mil/adl/en-US/53966/file/56105/MIL-STD-2073-1D.pdf

Hazardous Material

Shippers are responsible for accurately describing dangerous goods, accurately marking containers with dangerous goods, and providing full disclosure to all shippers and logistics representatives, such as USAP cargo personnel accepting the shipment. Failure to identify hazardous cargo puts logistics personnel at risk, and creates a danger to all craft and vessels throughout the system. Failure to identify hazardous material violates federal law with penalties up to $250,000 and 10 years in jail. Identify and label all material being shipped, hazardous and otherwise.

Note Many common items you use every day are considered hazardous material for shipment by aircraft and vessel. When in doubt, ask. Contact USAP Cargo for clarification.

Shipments of hazardous goods and hazardous material as cargo is supervised by the Hazardous Cargo Regulatory Specialist at DHQ. She deploys to McMurdo Station every season and can be reached there for consultation and advice.

USAP-Haz-Cargo-Questions@usap.gov

Messages to this e-mail address are reviewed by the Hazardous Cargo Regulatory Specialist and Port Hueneme Operations personnel, to assist with your complete shipment to Antarctica.

Change in Transportation Mode

Compliance with CFR 49 for hazardous material shipments outside of the continental United States (CONUS) may not be sufficient for air cargo or marine shipments. If not, the material will be repacked and certified to comply with the outbound shipment mode.

Wrong Material Delivery

Participants are responsible for transportation costs on return shipments of hazardous material if the wrong cargo is delivered to Port Hueneme Operations.

Packaging

Hazardous material must be segregated by class and packaged separately from other cargo. There are many varied categories of hazardous materials: gases, flammable liquids, flammable solids, oxidizers, poisons, radioactive material, corrosives, and many regulated materials. Hazardous material shipments must comply with all regulations from the following sources:

- U.S. Code of Federal Regulations, Title 49 *Parts 100-185 Hazardous Materials Regulations*
- Air Force Interservice Manual (AFMAN) 24-204 *Preparing Hazardous Materials for Military Air Shipments*
- International Air Transport Association (IATA) *Dangerous Goods Regulations*
- International Maritime Dangerous Goods (IMDG) Code

Together, these documents define responsibilities for USAP Cargo, Antarctic Terminal Operations (ATO), and Station Management.

Participants planning shipments of hazardous cargo should consult 49 CFR to determine packing requirements applicable to their shipments. Hazardous cargo should ideally be prepared in accordance with the restrictions applicable to passenger aircraft.

Note With the exception of some medicinal and toilet articles for personal use, hazardous materials may never be carried in baggage.

Participants requiring assistance in preparing their shipments may contact the Port Hueneme Operations Manager or secure the services of a professional packer.

Participants are responsible for packaging materials for their project or deployment. Shipments made by a third party are still the participant's responsibility. Participants should make sure that a third party is also aware of precautions and labeling requirements for hazardous material.

Note Packing lists must describe all materials used in packing hazardous items.

Shipping

Department of Transportation (DOT) regulations restrict hazardous materials. That is more complicated for the USAP, when shipping through a foreign country (New Zealand, Chile). These materials may move slowly through the system. In order to ensure timely arrival of hazardous material, send them to Port Hueneme Operations as early as possible. Follow the dates for *Commercial Surface* as specified on the materials cut-off schedule from the website: *Required Delivery Dates to Port Hueneme*

Waivers

Hazardous materials requiring waivers for air shipment should be identified as soon as possible, so that USAP Cargo can start the **45-day process**. The U.S. Air Force Materiel Command (AFMC) requires 30 days to process a waiver request, and USAP Cargo needs at least 15 days to research the hazardous material and its packaging, before submitting the request for waiver to AFMC.

Shippers are required to provide to USAP Cargo all pertinent specifications concerning the hazardous material shipment.

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

MSDS

Participants must assure that Material Safety Data Sheets (MSDS) are included with whatever hazardous materials they submit through the USAP Transportation system. These are commonly available from U.S. manufacturers. The MSDSs contain detailed information on each material, from generic name to specific chemical properties, and emergency first aid procedures. Participants must ensure this information is included with their shipment of hazardous material.

This may be difficult with custom materials which are purified or mixed individually, but an MSDS is still required. Also, participants should keep a copy of each MSDS shipped, in case the original is not delivered to Port Hueneme Operations by the shipping agent.

Participants are required to provide to USAP Cargo all specifications concerning the packaging materials (i.e.: type of container, packing material, etc.) with DOT numbers and U.N. specifications, if any. If a container does not meet DOT or U.N. specifications but the manufacturer of the container states that it will provide the required specification and protection, the participant must provide USAP Cargo with testing documentation from the manufacturer to support the claim. Participants also have to provide the type, net quantity, and weight of the material, and how it can be repackaged if needed.

Examples of Hazardous Cargo

Many common items used every day are considered hazardous cargo for shipment by aircraft and surface vessel. When in doubt, contact USAP Cargo for clarification.

Table 2: Examples of Hazardous Cargo

pyrotechnics and explosives	SCUBA cylinders (air)	fire extinguishers	aerosols and compressed gas cylinders
cryogenic liquids: oxygen (LOx), nitrogen (LN_2), helium (LHe)		cigarette lighters and lighter fluid	kerosene & gasoline
methanol, ethanol & isopropyl alcohol	acetone & benzene	paint, spray paint, paint thinner	some cleaning solvents and adhesives
ether, chloroform	carbon tetrachloride	hydrochloric acid, nitric acid, sulfuric acid	glutaraldehyde
formaldehyde	automobile batteries	ammonia	lithium batteries

These are not comprehensive lists and are not intended to offer complete details — these are merely examples. Use this as a guide to help identify if a material is hazardous when placed in the transportation system. Many common household substances and laboratory materials are considered hazardous during transport.

Note For help to identify and classify any hazardous material, contact the Regulatory Specialist at 800-688-8606 ext. 32261, or the Port Hueneme Operations Manager.

Dry Ice

Dry ice is regulated as a dangerous good. When shipped as *cargo* dry ice is subject to a maximum of 200 kg (440 pounds) per package. Because dry ice is a dangerous good, delays in transportation via commercial airlines may occur. Dangerous goods are always subject to refusal for flight by the airline or pilot.

Liquid Nitrogen Dewars

Dewars are containers designed to store and dispense liquefied gases.

Liquid nitrogen Dewars are utilized when extremely low temperatures are needed to preserve the integrity of science samples for long periods.

WARNING **Liquid nitrogen can destroy human tissue on contact.**

Liquid nitrogen is a regulated dangerous good. Liquid nitrogen Dewars may not be hand-carried or checked as baggage — they must be sent as cargo. The maximum amount of LN_2 allowed per package on passenger aircraft is 50 kg (110 pounds). Because LN_2 is a hazardous material, delays on commercial airlines are common. Upon receipt at the grantee's home institution, USAP Dewars must be returned to Port Hueneme Operations.

Shipping LN_2 Dewars as a means of transporting samples is discouraged by the USAP. Therefore, suitable justification and equipment must be received at least 15 days prior to shipping. All other means for shipping samples must be justified and eliminated before a Dewar will be approved.

Note Some Dewars are designed for transit; however, most containers designed for sample storage are generally not certified for shipment.

Explosives

Extremely dangerous and an obvious hazard, explosives may still be transported to Antarctica. Prior planning is essential, due to the need to check state, federal, military and international regulations. Port Hueneme Operations is located on a U.S. Naval base and is not permitted to accept, receive, ship, or store explosives or any Class 1 hazardous materials. Deliveries of explosives will be refused and attempts are subject to fines.

Shipment of explosives must be coordinated in advance. Some explosive shipments need 12 months lead time, or more. Please contact the Regulatory Specialist at 720-568-2261, toll free 1-800-688-8606 ext. 32261, or ask the Port Hueneme Operations Manager for more information.

Radioactive Materials, New Zealand

Shipment and use of radioactive materials in Antarctica requires strict adherence to a Memo of Understanding between the NSF and the Nuclear Regulatory Commission (NRC) for U.S. Antarctic policies and procedures to avoid contaminating the Antarctic environment and to ensure safety. Approval by the NSF/OPP to use any type of radioisotopes in the Antarctic must be obtained in advance, before any radioactive material is shipped south. The approval process will be described in your SIP. Also, contact your Science Planning Support Manager with the information, or other Raytheon POC for further information on this process. A hardcopy of the NSF/OPP *Radioisotope Authorization* (NSF form 1368) should accompany all radioactive material shipments to and from Antarctica.

Note Grantees are responsible for procurement, packaging, transport and retrograde movement of all radioactive materials and radioisotopes required for their research.

The Radiation Safety Officer (RSO) for your institution can specify the requirements for your radioisotope, radioactive substance, or radioactive emissions to ensure compliance with state, national, and international regulations pertaining to packaging and shipping. For further information, your RSO may consult with the Hazardous Material (HazMat) Specialist, Christchurch, New Zealand, by e-mail (hazmat@usap.gov) or FAX (+64-3-358-1479), for shipments to and through New Zealand. When shipping radioactive materials, or having them consigned from a vendor, please ensure that material is packaged within category Yellow-II, does not exceed a transport index of 1.0; and that, any Yellow-III packages do not exceed a transport index of 3.0.

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

Radioactive isotopes cannot be shipped to New Zealand without prior approval from the New Zealand National Radiation Laboratory. The HazMat Specialist, Christchurch, New Zealand, is required to submit a *Certificate of Authorization to Import Radioactive Materials* to obtain such an approval. The HazMat Specialist, Christchurch, New Zealand, must receive import documents five (5) business days before radioisotopes are received in New Zealand, whether being shipped to the country, or transshipped through to Antarctica. Accordingly, if vendors are planning to ship radioisotopes directly to New Zealand, then all orders must be marked by the vendor:

National Science Foundation
c/o Raytheon Polar Services (NZ), Limited
Gate 1, Orchard Road North
Christchurch International Airport
Christchurch, New Zealand

The project number or event number, and Principal Investigator (PI) name, must be included in the shipping instructions so that the HazMat Specialist in Christchurch will know to whom to consign the shipment in Antarctica.

After the order is placed with the vendor, you *must* notify the HazMat Specialist in Christchurch. Notification in writing may be an e-mail (hazmat@usap.gov) or fax (+64-3-358-1479) with the following information:

Unsealed

Radioactive items which are not an integral part of equipment:

1. Radioactivity per item.
2. Number of items.
3. Description of radioactive material.
4. Country of origin.
5. Expected departure date from country of origin.
   Include country name (e.g., United States)
6. Arrival in New Zealand

Sealed

Radioactive items which are an integral part of the instrument or equipment:

1. Radionuclide
2. Activity per item
3. Number of items
4. Year of manufacture (if known)
5. Serial number (if known)
6. Instrument type
   (if part of an instrument or other equipment)
7. Model
8. Country of origin
9. Expected departure date from country of origin (include country name)
10. Arrival in New Zealand

In addition, you are required to follow up with written confirmation for any radioactive compounds or radioisotopes being shipped. The Airway Bill (bill of lading), flight numbers, and any special handling instructions need to be provided as soon as the shipment is confirmed. Include any special handling; like KEEP FROZEN (KF) or DO NOT FREEZE (DNF).

When received in Christchurch, the HazMat Specialist consigns the shipment to the PI on station or research vessel. You may contact the HazMat Specialist in New Zealand with any questions:

USAP Cargo — Hazardous Coordinator
Raytheon Polar Services (NZ) Limited
Tel: +64-3-358-1471
FAX: +64-3-358-1479
cell: 027-4357731
e-mail: hazmat@usap.gov

Radioactive Materials, Chile

Note The local shipping agent in Chile is *Agencias Universales por Sud America* aka: Universal Agencies for South America — AGUNSA.

Shipment and use of radioactive materials in Antarctica follows strict guidelines between the NSF and the NRC for safety, and to avoid contaminating the Antarctic environment. Prior approval is required for use of any type of radioisotopes in the Antarctic, before any such material can be shipped south. The approval process will be described in your SIP. Your Science Planning Support Manager (POC) can help with this process. A hardcopy of the NSF/OPP *Radioisotope Authorization* (NSF form 1368) should accompany all radioactive material shipments to and from Antarctica.

Note Grantees are responsible for procurement, packaging, transport and retrograde movement of all radioactive materials and radioisotopes required for their research project. Shipment can occur only with prior approval from the NSF.

The RSO for your institution can specify the requirements for your radioisotope, radioactive substance, or radioactive emissions to ensure compliance with state, national, and international regulations pertaining to packaging and shipping. Grantees must direct requirements through the RSO at their institution or consult the Manager, Port Hueneme Operations, for shipments to or through Chile.

There are two ways to ship radioisotopes through Chile:

3. The vendor ships directly to AGUNSA, Punta Arenas, Chile.
4. The parent organization ships directly to AGUNSA.

Whether you are planning to have the vendor ship directly, or send it from your parent organization, you *must* follow these instructions:

1. Make arrangements with your local RSO
   to assure compliance with state, national, and international regulations for packing and shipping radioactive materials.
2. Ship to the address given below.
3. Material Safety Data Sheet (MSDS) must accompany all shipments.
4. the PI is responsible for contacting the Peninsula Logistics Supervisor,
   and Science Planning Support Manager at the time of shipment

Note Peninsula Logistics should be informed of any special storage requirements for the radioisotopes; like, KEEP FROZEN (KF) or DO NOT FREEZE (DNF).
This is most important since the radioisotopes may be stored for weeks in Chile, before being forwarded to Palmer Station.

Radioisotopes should arrive in Punta Arenas at least two weeks before the scheduled vessel departure. Check with your POC for the latest vessel schedule. Send radioisotopes directly to Chile:

Mgr., Punta Arenas Operations
AGUNSA
Deposito Franco Zona Antarctica
Agencias Universales S.A.
Punta Arenas, Chile
Tel: +56-61-247-503
FAX: +56-61-226-095

When arriving in Punta Arenas, Chile, AGUNSA facilitates clearance through Chilean Customs. The radioisotopes are assigned a TCN according to the grantee's project code, and stored in a warehouse at Punta Arenas until such time as they can be turned over to the MPC. The MPC will deliver the package to the grantee, when all required safeguards have been verified. For isotopes to be used at Palmer Station, the MPC will deliver the package to the Palmer Lab Supervisor.

Cargo Damage, Insurance, & Customs Inspections

Neither the NSF nor RPSC can be responsible for lost or damaged scientific equipment and general cargo in the following categories:

- shipped between point of origin and Antarctica
- shipped between Antarctica and the destination
- while in Antarctica
- while being transported via USAP transportation (research vessels, annual resupply vessel, or aircraft)

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

All participants are highly recommended to acquire their own insurance.

Reporting Damage or Loss

Report cargo damage as soon as found. Make reports directly to the SCM work center on station (e.g., USAP Cargo at McMurdo Station, South Pole Logistics, or Peninsula Logistics). For vessels, report immediately to the Marine Project Coordinator (MPC). For retrograde cargo, report damage or loss to the Port Hueneme Operations Manager or Port Hueneme Cargo Supervisor via e-mail **PH-Cargo Ops@usap.gov**

Collect digital images when ever possible. On vessels, the MPC often has a digital camera you might borrow. Send an e-mail with attached digipics to the USAP Cargo Supervisor on station or MPC on vessels. Material or cargo which never arrives (loss), or which is not available as scheduled, should also be reported in an e-mail.

> **Note** Refer to *Cargo Disposition Reporting* (LO-A-108) for more complete details.

Each report of damage or loss is investigated to determine the extent of damage, the cause of damage, and if possible, the location where the damage occurred. Completed reports are forwarded to the SCM Director. The objective is to identify the nature and frequency of occurrences so process and performance may be adjusted, as required, to prevent future damage.

Insurance & Customs

Participants are responsible for insuring their own shipments. The insured value should be as high as the current replacement value of the material. Except for military transport, items may be insured at any point during transit. It is solely the shipper's responsibility to accurately describe the contents and declare the value of shipments.
Raytheon Polar Services Company cannot and will not make this declaration.

Customs Value

The insured value is not the same as the Customs value. The declared Customs value should be the actual market value. That is, the value of the item in its present condition and current age — the blue-book value.

Provide the actual market value on Customs forms for Chile and New Zealand. This is the same value reported when using *Cargo Disposition Report* (LO-A-108a). It is the shipper's responsibility to accurately describe contents and declare value.

Note Refer to *Shipping Retrograde Science Cargo* (LO-A-109) for more complete details.

The U.S. Customs Office will scrutinize high-dollar value shipments more closely than less expensive cargo. When the cargo value reaches a certain dollar threshold, Customs personnel give the shipment more attention and ask more questions. That takes more time so, using the replacement cost (typically more expensive), rather than the current market value may delay clearing Customs. The same is true for retrograde return of equipment. When U.S. Customs identifies incoming shipments of highly technical equipment, they may specify a need for an import license. While the actual incidence is low in the USAP, proper identification and declaration is very important.

Dept. of Commerce

Check with the U.S. Dept. of Commerce, http://www.commerce.gov/, and the http://www.export.gov/ page there, to verify if your technical equipment needs an import/export license when being shipped to Antarctica.

Padlocks

Some shippers send cargo to Antarctica in locked containers. Both U.S. and Foreign Customs agents can and do cut off padlocks to inspect the contents. Serialized seals are recommended in lieu of padlocks.

Shipping Dates

Pre-shipment planning is essential to timely material delivery in Antarctica. Advanced planning can help to reduce USAP transportation costs while improving the probability of on time delivery.

Note Allow an additional 15 days lead time for hazardous or outsized materials, to make each Required Delivery Date (RDD).

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 Science Planning Support Mgr. or other POC. Cargo *en route* might be checked through Port Hueneme Operations.

RDD, Peninsula Area

The Required Delivery Date (RDD) for shipments bound for the Antarctic Peninsula area include Palmer Station, field camps, and vessel operations.

Cut-off dates to meet the Peninsula area cruise schedule can be located on the website:

Vessel Schedules

RV/IB *Nathaniel B. Palmer*
http://www.usap.gov/vesselScienceAndOperations/documents/nbpsched.pdf

AR/SV *Laurence M. Gould*
http://www.usap.gov/vesselScienceAndOperations/documents/lmgsched.pdf

Cut-Off Dates for RV/IB *Nathaniel B. Palmer*

You can find the ship cut-off charts on the usap.gov Logistics web page:
http://www.usap.gov/usapgov/logistics/index.cfm?m=4

Cut-Off Dates for AR/SV *Laurence M. Gould*

You can find the ship cut-off charts on the usap.gov Logistics web page:
http://www.usap.gov/usapgov/logistics/index.cfm?m=4

When you meet the RDD noted at these sites (above), it allows your material to be shipped by the preferred, most cost effective means available. Materials which cannot meet the RDD will need to be sent via COMAIR. Shipping COMAIR is the most expensive method, and requires approval from the NSF before shipping.

Oversized cargo shipments destined for Peninsula sites can be delayed 14 days or more by the lack of scheduled cargo aircraft to Punta Arenas, labor strikes, special events or national holidays in other countries. Oversized cargo must arrive in Port Hueneme first. It must arrive in time for COMSUR transportation based on published cut-off schedules, to afford adequate *planning* and transportation for AGUNSA delivery, in case there is no opportunity to fly the oversized cargo even part of the way.

RDD, Continental Area

You also need to schedule a Required On Station (ROS) date, whether McMurdo Station, South Pole Station, even Palmer Station and on board the vessels (above). That ROS date determines when you have to meet the RDD in Port Hueneme to arrive in Antarctica on time for your research.

Note Cargo may not meet its prescribed ROS date if the RDD is not met.

This list shows the ROS dates and RDD for cargo shipments during the 2011-2012 field season. Cargo that does not arrive within these prescribed guidelines may require COMAIR shipment. Shipping COMAIR is expensive and requires NSF approval.

Table 3: RDD Continental Area

Required Delivery Date (RDD) to Port Hueneme	ROS date	ROS number
29 June 2011	13 August 2011	1225
17 August 2011	1 October 2011	1274
24 August 2011	8 October 2011	1281
31 August 2011	15 October 2011	1288
7 September 2011	22 October 2011	1295
14 September 2011	29 October 2011	1302
21 September 2011	5 November 2011	1309
28 September 2011	12 November 2011	1316
5 October 2011	19 November 2011	1323
12 October 2011	26 November 2011	1330
19 October 2011	3 December 2011	1337
26 October 2011	10 December 2011	1344
2 November 2011	17 December 2011	1351
9 November 2011	24 December 2011	1358
16 November 2011	31 December 2011	1365
23 November 2011	7 January 2012	2007
30 November 2011	14 January 2012	2014
7 December 2011	21 January 2012	2021
14 December 2011	28 January 2012	2028
21 December 2011	4 February 2012	2035
28 December 2011	11 February 2012	2042
4 January 2012	18 February 2012	2049

Note Generally, your cargo is not on the same plane with you, when deploying from Christchurch to McMurdo Station. Many priorities determine cargo manifests, not the PAX deployments. Check with the Port Hueneme Operations, or the USAP Cargo Supr.

COMAIR Shipping

Commercial air cargo (COMAIR) shipments may require up to 30 days to process from Port Hueneme to McMurdo Station. Remember to allow for processing time as much as shipping time. Going to the South Pole Station may need up to 45 days.

Hazardous and oversized cargo needs more time for inspections and clearance, sometimes up to 60 days.

COMAIR cargo can be subjected to unforeseen delays including labor strikes, national holidays in foreign countries, staging for cargo-only aircraft, and Customs clearance. This is the most expensive cargo transport and therefore requires NSF approval.

COMSUR Shipping

Commercial surface (COMSUR) shipping is cargo on an ocean vessel other than the regular USAP container vessel to McMurdo Station each year. Oversized material which is late but still required may be sent COMSUR. Cargo and supplies going to the Peninsula Area and Palmer Station may be sent COMSUR at any time during the calendar year. It travels to Punta Arenas, Chile, and is transferred to one of the research vessels for final transport to Palmer Station.

Note When shipping to the Peninsula Area, be sure to consult schedules posted in the *Vessel Cut-Off Dates* (LO-A-588) available online.

The table shows shipping times from Port Hueneme to various USAP destinations frequented. If you want to ensure oversized cargo arrives on time, plan ahead and schedule for COMSUR. However, any cargo can be subject to unforeseen delays including labor strikes, holidays in foreign countries, and Customs clearance.

In general, allow for at least these many days for shipping:

Table 4: General Dates

Destination	Approximate time
McMurdo Station	30 days
South Pole Station	45 days
Hazardous material to New Zealand (*en route* to McMurdo Station & South Pole)	60 days
Research Vessels (to New Zealand)	50 days
Hazardous material to Research Vessels (in New Zealand)	65 days
Southern ports (Chile) & Palmer Station	90 days
Hazardous material to Southern ports (Chile) & Palmer Station	105 days (3 ½ months)

Baggage

Frequently confused, baggage is distinctly different from Cargo.

The NSF does not authorize reimbursement for excess baggage costs. Participants are responsible for all commercial airline baggage costs. The Deployment Specialists Group (DSG) suggests you ship excess baggage via the USAP Transportation System. Contact the DSG directly, for any oversize or overweight items which must be sent through USAP Transportation. Refer to the *Participant Guide* (NSF 06-52), and *Excess Baggage Request* (DS-A-100c).

Note Participants who self ticket are not eligible for excess baggage allowances.

Regardless of the baggage allowance on regular commercial airlines, standard checked baggage on flights from Christchurch to Antarctica is 68 kg (150 lbs) of personal luggage. The total includes your luggage, any personal equipment, and the ECW gear issued.

Note You must be wearing boots, bibs, parka, goggles, and gloves on all military flights, to-and-from Antarctica as well as throughout the continent.

Any baggage or personal luggage over the limits here must be approved by the NSF. Weight limits are strictly enforced from Christchurch to McMurdo Station; even more diligently on flights to the South Pole Station. Any additional baggage must be requested in advance and authorized by the NSF.

Excess Baggage Allowance

Participants are responsible for their own baggage fees on commercial air carriers. However, if you can identify specific need for extra bags, to carry special equipment for instance, you can request approval for the extra bags through the NSF. Use the *Excess Baggage Request* form (DS-A-100c), and contact the DSG. The NSF does not authorize reimbursement for excess baggage costs, unless you receive prior approval.

Approved excess baggage will be included with your travel packet. Approvals are nontransferable. Those authorized excess baggage for deployment do not automatically receive excess baggage for redeployment. You must submit another request form and receive approval for return travel to your point of origin.

Hazardous Material

Hazardous materials and restricted substances are strictly forbidden in baggage. Many chemicals used by USAP grantees are hazardous material for commercial transportation and may not be carried in checked baggage or carry-on luggage.

Military flights are no exception. Typically, if you can carry it on a commercial airline in the U.S., you can carry it on the flight to Antarctica.

Retrograde Movement

Retrograde movement is any material moving from Antarctica to other off-continent destinations. Supplies may be returned, special equipment coming back at the end-of-season, samples or product moving back, is all in retrograde movement.

Retrograde cargo consists of those specimens, equipment, and personal gear which are being returned from Antarctic research sites. Grantees and participants must package and mark their own retrograde cargo. Materials for packaging retrograde cargo, including boxes, stenciling tools, and labels, can be obtained from cargo personnel on the Ice.

Note The Peninsula Area and Palmer Station must meet all the same requirements. Later in this chapter, there are additional requirements described for the Peninsula Area and Palmer Station.

In general, USAP Cargo will coordinate all cargo delivery, including retrograde. Be advised that international shipping charges beyond the port of entry are the responsibility of the PI and that science group. **Each participant group is responsible for their own cargo and transportation costs from Port Hueneme to final destination: science groups, SOPP, and military groups are also responsible for transportation costs**.

Note Payment must be arranged in advance with the Manager, New Zealand Operations for shipments from Christchurch to destinations other than Port Hueneme NBVC.

Each science group is responsible for getting their own permits. Refer to the earlier section on Customs and Inspections. Then refer to the same government web sites for returning gear, or *importing* high-value technical equipment. This is especially important for cargo and samples shipping to countries other than New Zealand or the United States. Consult with Customs agents of the destination country to determine if additional permits or documentation are required for your shipment.

Note Science samples are under the same requirements as any other material being imported.

Once cargo is packed, it must be inspected and manifested by cargo personnel on the Ice before being shipped.

Keep accurate and numbered lists as your retrograde is packed. To process through Customs, you will need complete descriptions, nomenclatures, manufacturers, countries of origin and declared value. Specific contents and dollar value must be provided with documentation for all retrograde cargo. This information is required by U.S. and foreign Customs inspections. Failure to comply with Customs regulations could result in substantial delays in delivery.

Note Scientific specimens should be listed as having "No Commercial Value."

The Port Hueneme Operations Manager will receive all cargo as the port of entry for USAP Cargo. Once cleared, Port Hueneme Operations will call and/or e-mail the POC and alternate listed on the retrograde cargo form. They verify the ship-to address and destination information. Cargo is then forwarded to consignees on a freight collect basis (C.O.D.) or using the consignee's account number and preferred freight carrier. To expedite shipment, you should provide a FedEx or UPS account number or other shipping agent.

Be aware that UPS and FedEx have different modes of transport based on weight and dimensions and may require a ground specific or freight specific account number. Refer to the list of frequently used shipping agents later in this document. You may arrange for your own cargo transport if coordinated with the Port Hueneme Operations Manager at least two weeks in advance.

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

Government Owned Equipment

Do not retrograde government owned equipment without specific written permission from an authorized representative of the NSF Office of Polar Programs (OPP). All shipments are subject to inspection by various government agencies.

Hazardous Material

Hazardous materials intended for retrograde movement must be presented to USAP Cargo personnel at least five (5) days in advance of your departure. The hazardous cargo Regulatory Specialist must check packaging and labeling requirements for your cargo.

CAUTION You must disclose all hazardous or potentially hazardous goods and materials. Provide complete information to USAP Cargo personnel, in order to forward hazardous material to your destination.

Hazardous materials cannot be packed in checked baggage or carry-on luggage. Once in the commercial system, hazardous material might be detained for safety or compliance reasons, and may include fines or penalties.

When presenting hazardous cargo for shipment from McMurdo Station or the South Pole, do not pack your own cargo. Bring your material to the USAP Cargo office to discuss requirements. They might pack it for you.

Packing for Retrograde

Note Some of the requirements explained below, you may have to bring with you on deployment in order to provide on your return. Double check with USAP Cargo, or your local logistics support on station.
Also refer to *Shipping Retrograde Cargo* (LO-A-109) for complete details.

Cargo should be presented for shipping in sturdy containers or packed into suitable boxes. Remove old shipping labels and stickers. Cover old marks with a neutral paint or heavy permanent marker. Two coats are usually needed to cover stencil ink.

Several small boxes being shipped to the same destination may be boxed together or palletized and banded to make a single unit. Use steel straps or cordstraps to band cargo where possible. Assign a different TCN to each box or pallet of banded cargo.

Note Cover old marks on boxes with a neutral paint or heavy permanent marker.

Use sufficient padding to cushion contents. It is better to pack tight, than to leave spaces. Fill any vacant spaces or voids with more packing material to prevent contents from shifting. Boxes are often exposed to weather and rain during transit, or stored outside. Use waterproof sealing, and water-proof or wrapping with a moisture barrier.

Apply special handling labels as appropriate on at least two sides, and secure with staples or adhesive.

McMurdo Station & the South Pole

Cargo to be retrograded from McMurdo Station and South Pole Station must be packed and labeled by the persons generating the cargo — grantees, contractors, or employees. A unique TCN must be assigned to each piece of cargo. TCNs are only assigned by cargo personnel on station. Be sure to save a list of your own TCNs, with the list of contents as your equipment is packed.

Note Biological samples presented as cargo through New Zealand, must have a copy of the permit from the New Zealand Ministry of Agriculture and Forestry (MAF). Be sure to note this in MOCA.

From McMurdo Station and the South Pole all cargo being retrograded to the U.S. should move via the annual resupply vessel. Loaded in a freight container reduces the risk of damage during shipment. The vessel moves from McMurdo Station in February, arriving at Port Hueneme in March.

Note Retrograde via COMAIR must have NSF approval prior to shipping. Moving by COMAIR also involves more handling, and increases the risk for cargo damage.

Peninsula Area & Palmer Station

Cargo to be retrograded from Palmer Station or the research vessels must be packed by the persons generating the cargo — grantees, contractors, or employees. A unique TCN must be assigned to each piece of cargo. TCNs are generated by the grantee, contractor, or employee, from within the MOCA database. Be sure to save a list of your own TCNs, with the list of contents as your equipment is packed.

Develop packing lists while packing containers throughout the season. They should be accurate and complete. Identify returning articles of foreign manufacture. Include on the completed packing list the following statement:

> Science equipment was used in Antarctica to conduct research for the United States Antarctic Program, National Science Foundation.

The MPC can help prepare retrograde cargo and shipping documents. However, each grantee is responsible for packing and documenting their own containers.

Note Single items on a single Airway Bill need a U.S. Customs form 3299.

Retrograde cargo sent COMAIR must have NSF approval. Retrograde cargo on research vessels must be turned over to the MPC at least 48 hours before arrival.

Science Samples through McMurdo Station

Science samples enter the cargo stream using a Sample Shipment Worksheet. All samples presented for shipping must have the following:

- include all applicable permits
- complete the *Unaccompanied Sample Shipment Worksheet* (from MOCA)

> **Note** Use an *Unaccompanied Sample Shipment Worksheet* for all sample shipments. Be sure to make note on that If your sample is LIVE or needs priority handling.

- list at least one alternate contact authorized to receive the shipment
  - — name and phone number
  - — e-mail address
  - — date when available for accepting delivery of the sample
- contact number for institutes, facilities, or receiving departments where applicable
- submit to cargo personnel at least 72 hours before redeployment

> **Note** The Peninsula Area and Palmer Station must meet the following requirements for special cargo, in addition to the requirements for their area.

Geological

The term “Geological Samples” is insufficient for clearing Customs.

Be specific when describing geological samples. Provide type and origin; like, “freshwater un-consolidated rock.” Vague terms for geological samples often alert Customs authorities to x-ray, microwave, or examine samples, which can compromise samples during shipment.

Biological

Shipments described as "Biological Specimens" must be accompanied by a letter, on university letterhead, which addresses the following points:

- source of the product (animal, plant, synthetic)
  - — animal, describe type and origin
- if the product contains any animal by-products

Further, add this information when shipping birds (alive or dead):

- both common and scientific names
- migratory birds
  - — confirm registration with U.S. Department of Agriculture to receive birds imported to the U.S.

For shipments of biological specimens, you must provide a letter to the U.S. Department of Agriculture (USDA). Use the following format for content — letters should be on letterhead from your home university or parent organization.

The format and content has been created for inspectors with the Department of Homeland Security (DHS), to standardize letters from USAP participants and ease clearance through U.S. Customs.

Science Samples from Peninsula Areas

Science samples enter the cargo stream using the Marine Operations Cargo Application (MOCA) program. Science samples must be accompanied by complete documentation. Forms handled by the logistics team and MST are forwarded to AGUNSA, for government permissions to transport though Chile. All samples submitted must include the following information:

- all applicable permits
- 3 copies of the US Department of Homeland Security (DHS) letter with the original signature in ink
- 1 copy of the Instituto Antartico Chileno (INACH) Chile Antarctic Institute permit letter with the original signature in ink

> **Note** The Science Planning Summary will be provided, annually, to INACH. INACH will use this to verify the validity of NSF sponsored research when import permits (INACH letters) are requested by grantees. Permits should be requested in advance of the planned port date.

All letters should be written university or organization letterhead and include the following information:

- science sample originates from a U.S. research program in Antarctica (*U.S. National Science Foundation, Office of Polar Programs*)
- where and when the sample was collected
- list genus and species
  (if genus unknown use “Genus spp”)
- how many samples? give quantity of sample
  (if sample is microbial, use volume)

> **Note** SAG and *Sernapesca* letters are no longer required. These have been replaced by a single letter to INACH (Chile Antarctic Institute)

- at least one alternate contact authorized to receive the shipment
  - — name and phone number
  - — e-mail address
  - — date when available for accepting delivery of the sample
- contact number for institutions or receiving departments where applicable
- submit to cargo personnel at least 72 hrs before leaving the station or research vessel

Seawater Samples

Water samples being shipped through Chile require the following documentation included with the packing list:

- 3 copies of the US Department of Homeland Security (DHS) letter with the original signature in ink
- 1 copy of the Instituto Antartico Chileno (INACH) Chile Antarctic Institute permit letter with the original signature in ink

Oceanographic Samples

Oceanographic samples being shipped through Chile require the following documentation included with the packing list:

- 3 copies of the US Department of Homeland Security (DHS) letter with the original signature in ink
- 1 copy of the Instituto Antartico Chileno (INACH) Chile Antarctic Institute permit letter with the original signature in ink
- copy of CITES permit from country of origin, if required

Agricultural Samples

Agricultural samples being shipped through Chile require the following documentation included with the packing list:

- 3 copies of the US Department of Homeland Security (DHS) letter with the original signature in ink
- 1 copy of the Instituto Antartico Chileno (INACH) Chile Antarctic Institute permit letter with the original signature in ink
- If samples originate from bird species, a letter with original signature in ink, must be included that verifies the sample was not collected in Norfolk or Suffolk counties, England.
- copy of CITES permit from country of origin, if required
- copy of U.S. Dept. of Agriculture permit (or equivalent)

Note If a CITES permit is required, AGUNSA must have all necessary documentation in time to clear Customs — at least two (2) weeks before shipping the sample. If a CITES permit is not required, the request must be submitted no later than one (1) week before shipping.

Geological Samples

Geological samples being shipped through Chile require the following documentation included with the packing list:

- 3 copies of the US Department of Homeland Security (DHS) letter with the original signature in ink
- 1 copy of the Instituto Antartico Chileno (INACH) Chile Antarctic Institute permit letter with the original signature in ink

Paleontological Samples

Paleontological samples being shipped through Chile require the following documentation included with the packing list:

- 3 copies of the US Department of Homeland Security (DHS) letter with the original signature in ink
- 1 copy of the Instituto Antartico Chileno (INACH) Chile Antarctic Institute permit letter with the original signature in ink

23 October 2012
Department of Homeland Security
US Department of Agriculture
Customs Authorization

Dear Inspector:

The material in this shipment originated from a federally sponsored U.S. research program in Antarctica, for the National Science Foundation, Office of Polar Programs. Nothing in this shipment contains any equine ruminant, swine nor avian species nor their materials.

Source of Biological material:
Animal

Type & Origin:
RNA, DNA and proteins were extracted from sea urchins collected in McMurdo Sound, Antarctica. These extracts are non-infectious, non-bioactive and non-toxic. In total, there are less than 5 milligrams of RNA, DNA and protein.

Byproducts:
These samples do not contain any animal by-products. The RNA, DNA and protein extracts were collected only for academic research purposes and will only be used at the marine laboratory of the University of Delaware.

Respectfully,

Dr. I. M. Compliant, Ph.D.
Professor
Department
University

Figure 1: Sample Letter, on university letterhead

Temperature Sensitive Shipping

Temperature sensitive cargo and science cargo must be clearly marked.

- Keep Chilled
- Keep Frozen

> **Note** Temperature sensitive science cargo to-and-from McMurdo Station and the South Pole should be shipped on the resupply vessel in February.
> Details are included in the body of this document.
> From station, check with USAP Cargo or logistics support personnel for details.

The most reliable method of temperature control is in refrigerated containers on the vessel. Temperature sensitive shipments using these containers have very few temperature variations during transport:

Keep Chilled: +4°C (+39°F)
Keep Frozen: -20°C (-4°F)

Participants are responsible for notifying USAP Cargo about any temperature sensitive cargo. You must inform USAP Cargo about ultra-low temperature requirements before submitting cargo for shipping. The same responsibility applies to time sensitive samples or cargo returning from Antarctica.

> **Note** Sample shipments which require temperatures colder than -20°C (-4°F) or those which degrade within 30 days should be shipped via COMAIR using methods described below.

If storage is required at Port Hueneme, you must state the temperature at which it is to be stored and coordinate for storage with the Port Hueneme Operations Manager before the sample leaves the station.

COMAIR

All cargo or science samples shipped via COMAIR require prior NSF approval. Remember, COMAIR is the most expensive mode of transport, and costs will be transferred accordingly. Even shipping COMAIR, frozen cargo takes 10 to 15 days for freight forwarding and processing through Customs. Grantees are responsible for getting clearances through Customs for New Zealand or Chile, *and the United States* for samples returning from Antarctica.

Once cleared, science cargo and samples can be forwarded to your institution. Grantees must make arrangements to have cargo received at the destination within the time frame they describe in order to avoid delays which could compromise or damage samples.

> **Note** Frozen samples shipped via COMAIR from South America might be delayed more than 15 days because of limited cargo space and limited flight availability.

Keep Chilled

You are responsible for temperature controls with hand carried or accompanied baggage while in transit. With advance notice, contract representatives working for USAP Cargo might be able to help you get more ice. If resupply will be

necessary at any port of entry, contact USAP Cargo no less than three (3) days before leaving. They have to know what refrigerant you need: blue ice, green ice, or dry ice.

KEEP CHILLED samples hand carried to Christchurch can **not** be placed in the cargo stream in Christchurch. They do not have the material or personnel to package temperature controlled samples for COMAIR shipment. Material requiring COMAIR shipment should be submitted to USAP Cargo at McMurdo Station, or the MST aboard your research vessel. Hand carried samples are non-transferable; they must travel with the same person to the final destination.

For McMurdo Station, South Pole Station, and New Zealand cargo, the resupply vessel is the best opportunity to truly maintain KEEP CHILLED temperatures for material shipments. The alternative is COMAIR, using eutectic ice.

Samples or cargo which must be shipped via COMAIR and kept chilled will be packed with a cooling agent to help keep packages cool. Chilled samples are packed in *Thermosafe* containers using eutectic ice. The eutectic ice can be replaced or replenished before international flights from Christchurch, Los Angeles, and Punta Arenas.

When using eutectic ice for KEEP CHILLED samples (green ice), science samples may be exposed to temperature change, warming, perhaps to ambient temperature by the time you arrive. To stay chilled, you must keep an insulating layer of plastic bubble wrap between the samples and the eutectic ice. This prevents actual freezing, and helps assure samples stay chilled for the duration of your flight.

Within the USAP Transportation system, samples marked KEEP CHILLED are held in temperature controlled facilities, only where available: Los Angeles, Port Hueneme, Christchurch, or AGUNSA in Chile. There is no guarantee that refrigerated facilities can be located anywhere else. Grantees would have to make their own arrangements through their own air carrier for accompanied baggage.

Keep Frozen

In the Continental Area (McMurdo Station and South Pole Station), it is recommended that Keep Frozen samples be shipped on the resupply vessel because the refrigerated sea containers can be set to the desired temperature. With USAP Cargo, samples marked KEEP FROZEN are maintained in temperature controlled facilities.

However, frozen science samples can also be shipped in a *ThermoSafe*. These are close-celled polyurethane foam containers. They are kept cold with a refrigerant, either dry ice (CO_2), blue ice, or green ice (eutectic ice). You need to replenish the refrigerant before each international flight to keep samples frozen.

- large *ThermoSafe*
  inside dimensions 26.5” x 18.5” x 26.5”
  (67 cm x 47 cm x 67 cm)

- medium *ThermoSafe*
  inside dimensions 19.5” x 13.5” x 13.5”
  (49.5 cm x 34 cm 34 cm)

Because dry ice is classified as a hazardous substance, delays can occur when using commercial airlines. In the event of such a delay, freight forwarding agents can monitor and resupply dry ice as necessary. Therefore, USAP Cargo may delay shipment at the point-of-origin (on station), maintain temperature control, and keep samples frozen until suitable transport can be found via COMAIR.

Note Do not use dry ice if the sample will be compromised by CO_2 gas, or *extreme* cold.

Retrograde science samples which must be kept frozen are packed with refrigerant unless other needs are identified. If dry ice (CO_2) will compromise the sample, other arrangements can be made.

Samples in Hand-Carry or Checked Baggage

Specific arrangements for replenishing ice can be made, but you must make those arrangements at least three days before departure. From McMurdo Station you can hand carry containers for dry ice or eutectic ice when returning with KEEP FROZEN OR KEEP CHILLED samples as baggage. Delays can occur on commercial airlines. In the event of such a delay, RPSC has contract agents who might be able to resupply dry ice in some locations. Replenishment can only occur with prior notice.

There are very few restrictions using eutectic ice for samples. However, dry ice is considered a dangerous substance. The International Air Transport Association (IATA), USAF, and Federal regulations state that only 2.5 kg (5 pounds) of dry ice is allowed.

Note A total of 2.5 kg dry ice is allowed total per passenger.
You can *not* have 2.5 kg in one package, with 2.5 kg in another.
You can *not* have 2.5 kg in checked baggage, and another 2.5 in your carry-on.

The weight limit is per passenger; you can not consolidate individual dry ice allowances into one package. Individuals who exceed the weight limit are required to ship the excess as cargo. You can only enter cargo into the USAP transportation system from on station or Port Hueneme, not later at the airport.

Dry ice as baggage requires advance approval from the airline. Grantees and researchers are responsible for getting their own permissions from the airline.

Note Each package containing dry ice must be marked as DRY ICE or CARBON DIOXIDE SOLID.
Each package must be marked with the net weight of dry ice.

Dry ice must be packed in porous containers. Law prohibits non-porous containers such as hard plastic *Coleman* coolers. You must allow a minimum of three hours between commercial flights in order to schedule replenishment. If you do not have three hours, rearrange your flight plans to include a three hour layover, to meet with contract representatives who might be able to resupply dry ice.

Dry Shippers

Dry shippers are insulated packages using liquid nitrogen (LN_2) as the refrigerant, fully absorbed in a porous material. Dry shippers are intended for science samples kept at a very low temperature.

Note There should be absolutely no free liquid inside.

WARNING **Liquid nitrogen (LN_2) can destroy human tissue on contact.**

Grantees must follow all guidelines regulating dry shippers during commercial transport. As checked baggage or carry-on luggage, dry shippers are permitted only on some passenger aircraft. Grantees must receive approval from the operator. *Even when previously approved by the airline*, individual carriers (pilots, boarding agents, etc) have the right to refuse transport at any time they feel their aircraft is threatened, for whatever reason. Neither USAP Cargo nor the DSG is able to countermand those decisions.

Note Dry shippers should be the last resort when shipping frozen samples. Consult with USAP Cargo personnel before using a dry shipper to transport your samples.

It is possible that one airline may allow the dry shipper, but the next plane may not. For example, one might board an airplane in Chicago, fly to Los Angeles and be denied boarding — not as carry-on, not as checked baggage, even on the same airline. The dry shipper might be denied through Customs at the port of entry, or any change of plane.

Failure to meet any requirement set forth by U.S. federal, military or international regulations risks severe penalties and fines:

- civil penalty up to $100,000
- criminal prosecution: maximum fine of $250,000 and up to 10 years

All participants and grantees are responsible for their own penalties and fines. To help prevent any violation, have USAP Cargo personnel inspect the dry shipper:

- assure the integrity of the dry shipper, that it meets packaging requirements.
- contact the airline and receive approval (from the airline) for dry shipper before attempting to board the aircraft.
- inspect dry shipper and verify no free liquid is present in container.
- mark the dry shipper with orientation arrows pointing up
- mark the dry shipper with special handling instructions:
  KEEP UPRIGHT, DO NOT DROP, and NON-REGULATED SUBSTANCE

Recommended additional marking and documentation for dry shippers:

- label each dry shipper with your name and destination address
- include a hardcopy of IATA documentation (Section 5, *Packaging Instructions 202*) attached to the package, and another carried with you
- indicate weight and cube on outside of container

Peninsula Area & Palmer Station

Shipping from the Peninsula Area and Palmer Station must meet the same requirements (above) as shipping from other locations. They may have other forms to submit, using MOCA online. Permits and packaging is still the responsibility of the grantee, although the logistics team can provide hands-on assistance if needed.

For the Peninsula Area and Palmer Station, KEEP FROZEN science cargo is shipped through regular cargo procedures and does not accompany the grantee. For KEEP FROZEN samples, request shipping through the Peninsula Logistics Supervisor, or MPC at least two weeks before departure. In that request, give the volume and weight for your *contents* — they determine the best container and packaging. The vessel MPC will coordinate with AGUNSA as needed.

Allow space for the coolant, whether dry ice or eutectic blue ice. Packaged samples should not exceed one-third of the inner volume. Provide all information for shipping:

- the environment the sample shipment requires
- temperature for storage at Port Hueneme, before forwarding
- requested arrival date
- container type
  the container with your sample in it
- shipping address
- alternate contact on arrival

Feedback & Contacts

In order for us to better serve you, we encourage feedback about our logistics system. Positive feedback tells us what satisfies our customers and meets their needs. Constructive critique highlights problem areas that may provide opportunities for improvement, and improve grantee support. We ask for both.

These are the points of contact (POCs) for issues concerning Supply Chain Management:

- Supply Chain Management Director
- USAP Logistics Manager
- Port Hueneme Operations Manager
- Antarctic Terminal Operations (ATO) Manager
- USAP Cargo Supervisor

We all wish you the best in your Antarctic research.

Note These are contacts for shipping cargo and equipment.
For postal mailing addresses, refer to the *Participants Guide* (NSF 06-52).

Port Hueneme

Freight:

National Science Foundation
c/o Raytheon Polar Services
Naval Base Ventura County
Building 471, North End
Port Hueneme, CA 93043

Correspondence:

National Science Foundation
c/o Raytheon Polar Services
P.O. Box 338
Port Hueneme, California 93041

Telephone:

805-985-6851
800-688-8606
x33608, x33619, x33601

FAX:

805-984-5432

e-Mail:

PH-CargoOps@usap.gov

U.S. Customs

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

U.S. Freight Carriers

These are contact numbers for freight forwarders in the USAP Transportation system.

Table 5: Freight Carrier Contact Numbers

Carrier	Phone
ABF Freight systems, Inc.	800.610.5544
Con-way Freight	800.755.2728
FedEx Express	800.463.3339
FedEx Freight	866.393.4585
Old Dominion	800.610.6500
UPS Freight	800.333.7400
UPS Domestic	800742.5877
YRC (Yellow-Roadway Corp.)	800.775.2728

New Zealand

National Science Foundation
c/o Raytheon Polar Services (NZ) Ltd.
Gate 1, Orchard Road North
Christchurch International Airport
Christchurch
New Zealand

Tel: +64-3-358-8139
FAX: +64-3-358-1479

Chile

Manager, Punta Arenas Operations
AGUNSA
Deposito Franco Zona Antarctica
Agencias Universales S.A.
Punta Arenas, Chile

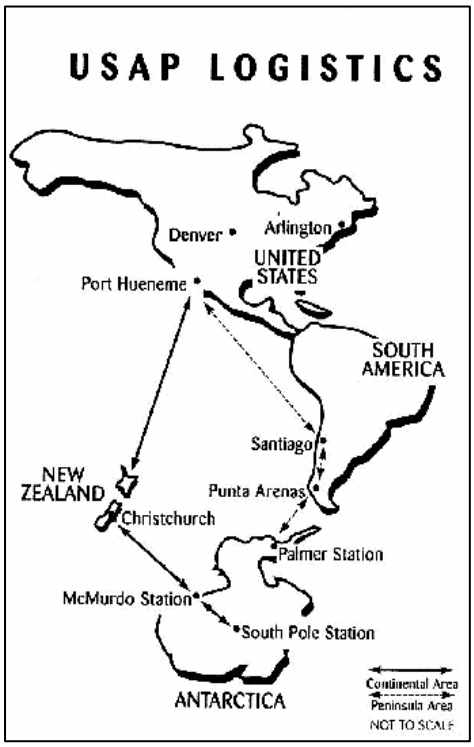
Tel: +56-61-247-503
FAX: +56-61-226-095

Appendix 1: Methods for Shipping Cargo

Unless otherwise directed by the NSF, RPSC will determine the mode of transport based on when the cargo is received, and what is available at the time. To meet the Port Hueneme cargo cut-off dates, consider the shipping mode and transit time.

Resupply Vessel

The USAP charters one container ship each year to move cargo between Port Hueneme, CA and McMurdo Station. That often includes a stop at Port Lyttelton, New Zealand. Often referred to as "The Vessel," it leaves from Port Hueneme, CA, and arrives at McMurdo Station in February. Considering all methods of transport to Antarctica, the annual resupply vessel is most cost effective.
The vessel returns to Port Hueneme for retrograde offload in mid-March. The onward shipment of scientific materials and samples is first priority. Shipping via the resupply vessel should be the first option considered, for cost *and* the ability to support temperature sensitive cargo.



Commercial Shipping

Commercial surface shipping (COMSUR) moves cargo via ocean going surface vessel. Cargo that arrives at Port Hueneme by the RDD is containerized and shipped COMSUR to New Zealand or Chile. This is a primary and cost effective transportation mode. There are two major COMSUR shipments to New Zealand each year. For Punta Arenas, Chile, COMSUR shipments depart at regular intervals throughout the year, depending on cargo volume.

Cargo that cannot arrive at Port Hueneme by the RDD must be flown by commercial air (COMAIR), if that is the only way to meet the ROS date. Shipping COMAIR is costly, and not recommended. Also, it requires prior approval from the NSF.

USAP Airlift

Special Assignment Airlift Mission (SAAM) flights are USAF cargo planes chartered by the USAP to transport oversized or perishable cargo, like helicopters and liquid helium. SAAM flights typically start at the beginning of the austral summer. Special coordination is required for all SAAM flights, and they are expensive. Do not plan to send cargo by SAAM; there is no guarantee a SAAM flight will be available.

Appendix 2: Transportation Costs and Planning

Acquisition planning schedules provide timelines for moving cargo to Antarctica. Plan ahead and use the lowest cost options as shown in the table. Contact the Manager, Port Hueneme Operations, with any questions about lead times for special handling.

Table 6: Costs & Planning

Transport Mode	TO:	Transit Time	Cost	Lead Time	Advantage
COMSUR Container ship. Break-bulk cargo too large for containers.	Christchurch, New Zealand	25 Days	**US$ 1.22** per pound	**45 days** Due in Port Hueneme 35 days before ROS date.	Cost is less than other modes. Still more expensive than the Resupply vessel.
	Punta Arenas, Chile	45 Days		**65 Days** Due in Port Hueneme 65 days before ROS date.	Schedule based on vessel cut-off dates. Oversized cargo can be delayed in Santiago, Chile, up to 14 days.
COMAIR Commercial airline Cargo moved by freight handler, or as freight on regular flights.	Christchurch, New Zealand	2 to 6 days	**US$ 3.56** per pound	**7 to 10 days** Due Port Hueneme 7 to 10 days before CHCH.	Most expensive shipping. Quickest delivery. Provides goods on short notice. Outsized items sometimes go thru Chicago, and can take weeks as air freight. Hazardous cargo can only move as air freight.
	Punta Arenas, Chile	27 days		**30 days** Due to Port Hueneme 30 days	
Resupply Vessel Chartered vessel moving from Port Hueneme, CA to Lyttelton, NZ, to McMurdo Sta. South Pole cargo moved later from McMurdo Sta. (airlift or overland)	Port Lyttelton, New Zealand	17 days	**US$ 0.45** per pound	ALL DUE Port Hueneme 1 December	Most cost effective shipment. Move containers & bulk cargo at same time. Move outsized and overweight cargo at no added cost.
	McMurdo Sta. South Pole Sta.	5 to 6 days (23 days, to McMurdo Sta) Movement to South Pole by air or land, next season.			
Vessel offloads cargo at McMurdo, loads retrograde and recycle for return trip.	Retrograde to Port Lyttelton	6 to 10 days depending on reload	**US$ 0.30** per pound	ALL DUE McMurdo Sta. 31 January	Most cost effective return shipment. Most assured for temperature controlled samples. Most secure for containers and bulk samples on return.
	Retrograde to Port Hueneme	17 days			

Transport Mode	TO:	Transit Time	Cost	Lead Time	Advantage
USAP Airlift Contract airlift NZ to McMurdo then to South Pole and deep field camps	McMurdo Station	6 – 8 hrs depending on aircraft	N/A USAP subcontract	**7 Days** Due in CHCH 7 to 10 days before ROS date McMurdo.	Move passengers (PAX) and cargo between CHCH and McMurdo Station.
	South Pole Station	3 to 4 hrs depending on weather		**10 Days** Due in CHCH 10 to 14 days before ROS at South Pole.	Move PAX and cargo between McMurdo Station and South Pole Station.
Retrograde and Redeployment	Christchurch, New Zealand	6 – 8 hrs depending on aircraft		**7 Days** Due in McMurdo 7 to 10 days before flight to CHCH	Move PAX and cargo back to NZ, end of season.

The least expensive mode for the continental area (McMurdo Station and South Pole) is the resupply vessel. The least expensive mode for the Peninsula Area it is COMSUR. Both modes require extra lead-time for delivery because of longer transport times.

As a general rule Port Hueneme serves as worldwide shipping hub for the USAP, and all cargo moving to-and-from Antarctica. Hazardous materials may require an additional 15 days transit time. Similarly, oversized cargo may also be delayed *en route*.

Appendix 3: Vessel Required Delivery Dates

Please refer to the *RDD for Port Hueneme* to determine the date when cargo must be received at Port Hueneme for on-time delivery via COMSUR. Refer to the table below for resupply vessel RDDs. to McMurdo Station.

Table 7: Vessel Delivery Dates

	RDD Pt. Hueneme	Required On Site	ROS
Resupply Requisition	1 September	1 February	**2032**
Food Requisitions	3 November	1 February	**2032**
Construction Projects	1 December	1 February	**2032**

Table 8: Vessel Delivery Priority

	RDD Pt. Hueneme	Required On Site by PRIORITY	ROS
Life, Health, Safety Critical	1 September	PRIORITY 1	**2121**
Food Requisitions	2 November	PRIORITY 1	**2121**
Mission Critical	1 September	PRIORITY 2	**2122**
Mission Essential	2 September	PRIORITY 3	**2123**
Mission Important	3 September	PRIORITY 4	**2124**

References

List source material or supporting documents, if any.

Supporting Documents

You may also refer to these documents when completing these instructions.

- *Antarctic Conservation Ac*t
  http://www.nsf.gov/od/opp/antarct/aca/aca.jsp
- *Certificate of Registration of Foreign Manufactured Item*,
  U.S. Customs form 4455
- *U.S. Customs Transportation Entry* (T&E)
  U.S. Customs form 7512
- *Declaration for Free Entry of Unaccompanied Articles*
  U.S. Customs form 3299
  http://www.cbp.gov/xp/cgov/toolbox/forms/
- New Zealand Customs Form 33
  http://www.customs.govt.nz/
- Ministry of Agriculture and Forestry (MAF)
  http://www.biosecurity.govt.nz
- NSF 06-52 *Participant Guide*
- NSF form 1368 *Radioisotope Authorization*

Standards and Guidelines

- AFMAN 24-204 *Preparing Hazardous Materials for Military Air Shipments*
- CFR Title 49 *Transportation*
- FAR Part 44 *Government Property*
- GAO *Standards for Internal Control in the Federal Government*
- IATA *Dangerous Goods Regulations*
- IATA *Packaging Instructions 202*
- International Maritime Dangerous Goods (IMDG) Code
- MIL-STD-2073-1 *Packaging Requirement Code* (PRC)
- OMB A-123 *Management's Responsibility for Internal Control*
- USC, Title 49 *Parts 100-185 Hazardous Materials Regulations*

Related Internal Documents

- DS-A-100c *Excess Baggage Request*

- FI-A-017 *Temporary Property Hand Receipt*
- LO-A-108 *Cargo Disposition Reporting*
- LO-A-109 *Shipping Retrograde Science Cargo*
- LO-H-500 *Port Hueneme Operations*

Glossary

Refer also to the list of approved terms in the Glossary.

AFMAN

Air Force Joint Manual

AFMC

USAF Material Command

AGUNSA

Agencias Universales de Sud America
The South American logistics support agent contracted by USAP.

AIL

Antarctic Infrastructure and Logistics Division for the NSF

ANT

Antarctic Sciences Division of the NSF

APHIS

Animal and Plant Health Inspection Service
of the U.S. Department of Agriculture

AR/SV

Antarctic Research & Supply Vessel

ATO

Antarctic Terminal Operations

Cargo Resupply Vessel

A chartered vessel hired to move cargo between Port Hueneme and McMurdo Station. It generally includes a port call at Port Lyttelton, New Zealand. Often referred to as “the Vessel,” it is the most cost efficient transport for moving material to McMurdo Station. That cargo is often moved on to inland camps and the South Pole Station.

CFC

chlorofluorocarbon
An organic compound damaging to the ozone layer.

CFR

Code of Federal Regulations

CHC
CHCH

Cheech
Slang for Christchurch, New Zealand.

Chilean Territory

Generally the area around the country of Chile. May also refer to the area between 50° and 90° East latitude.

CITES

Convention on the International Trade in Endangered Species
http://www.cites.org/

COMAIR

Commercial Air
Material or supplies transported via commercial aircraft, rather than USAP subcontractor (ANG, Kenn Bork Air Ltd., etc.).
This is the most expensive shipping method for the USAP. Please avoid whenever possible. Advance authorization from the NSF is required for all COMAIR shipments.

COMSUR

Commercial Surface
Cargo transported by a commercial shipping line, usually an ocean-going vessel.

Continental Site

Any USAP site throughout the Antarctic continent. Typically transit through Christchurch, NZ, to McMurdo Station. From there, transit to the South Pole Station, or Inland field camps.

CONUS

Continental United States

CTS

Cargo Tracking System

DHS

Department of Homeland Security

DHQ

Denver Headquarters

DNF

DO NOT FREEZE

DOT

U.S. Dept of Transportation

DSG

Deployment Specialists Group

ECW

Extreme Cold Weather gear issued for deployment.

eutectic ice

The solid formed when a mixture of 76% water and 23% salt (by weight) is frozen. It melts at −21°C (-5°F), with about three times the refrigerant effect of dry ice.

FAA

Federal Aviation Administration

FAR

Federal Acquisition Regulation

FAX

document Facsimile transmission

GAO

General Accountability Office

HBCF

Hydrobromochlorofluorocarbon
An organic compound damaging to the ozone layer.

HCFC

Hydrochlorofluorocarbon
An organic compound damaging to the ozone layer.

IATA

International Air Transport Association
These regulations on dangerous goods govern commercial hazardous material transport.

ICAO

International Civil Aviation Organization

IMDG

International Maritime Dangerous Goods

INACH

Instituto Anartico Chileno

Chile Government Antarctic Institute

Ministry of Foreign Affairs

http://www.inach.cl/

IPPC

International Plant Protection Convention

ISPM

International Standards for Phytosanitary Measures

LMG

AR/SV *Laurence M. Gould*

MAF

Ministry of Agriculture and Forestry, in New Zealand

Mainbody

Large movement, the period of majority transport to Antarctica for season opening.
Same movement occurs in retrograde at station closing.

MAWB

Master Airway Bill

MOCA

Marine Operations Cargo Applications
Online tool to submit science samples for retrograde shipping.
Might be called the McMurdo Operations Cargo Applications, which is the same thing.

MPC

Marine Project Coordinator

MSDS

Material Safety Data Sheets

MST

Marine Science Technician

NBP

RV/IB *Nathaniel B. Palmer*

NBVC

Naval Base Ventura County
Port Hueneme, California

NPX

National Weather Service airfield designator for South Pole Station.

NRC

Nuclear Regulatory Commission

NSF

National Science Foundation

OHS

go to DHS

OMB

Office of Management and Budget

OPP

Office of Polar Programs

ORT

Online Requisition Tracking

Oversized cargo

Oversized cargo is cargo that cannot be flown on passenger aircraft, or that which exceeds the capabilities of the aircraft available for the proposed route.

Peninsula:
Cargo which is more than 57” L, 43” W, 31” H, with total weight over 265 pounds.

Continental:
Cargo which is more than 124” L, 96” W, 62” H. No specific weight limit. However, very heavy items may be moved overland from Auckland to Christchurch without an expedite fee.

PAX

Passengers
Walking cargo.

Peninsula Site

Any USAP site along the Antarctic Peninsula. Many vessel operations, Palmer Station and surrounding field sites fall into this category.

PI

Principal Investigator

POC

Point Of Contact
The individual or office used to centralize input and exercise control over a project. For most events, this will be the Science Planning Manager.

PUQ

Punta Arenas, Chile

RDD

Required Delivery Date
The deadline for cargo intended to arrive at Port Hueneme, in order to be further shipped via USAP resources.

Please refer to *Required Delivery Dates to Port Hueneme* in this document, to determine the date which cargo needs to be received in Port Hueneme.

ROS

Required On Site
Date when the item is required at the location where it will be used, whether on station, vessel, or field camp.
Computing this date migrates to cargo scheduling, bar codes, flight manifests and on to the destination. Cargo tracking uses the first Saturday following the requested date. Cargo is manifested to reach its site by that Saturday. That date is then converted into a 4-digit number representing the year and Julian date.
For Peninsula operations, this is generally understood to be the date the vessel arrives at Punta Arenas, or in some cases when the material must be carried via alternate means.

RPSC

Raytheon Polar Services Company

RSO

Radiation Safety Officer

RV/IB

Research Vessel, Ice Breaker

SAAC

South American Air Cargo
This is COMAIR cargo moving to Punta Arenas, Chile, for deployment to Palmer Station or USAP research vessels.

SAAM

Special Assignment Airlift Mission

SAV

South American Vessel cargo
This is COMSUR cargo traveling to Punta Arenas for deployment to Palmer Station or USAP research vessels.

SCUBA

Self Contained Underwater Breathing Apparatus

SIP

Support Information Package

SOPP

SPAWAR Office of Polar Programs

SPAWAR

Space and Naval Warfare Systems Command

This USN support contractor provides services to the NSF supporting communications, navigation, and air traffic management for the USAP.

TCN

Transportation Control Number
Shipping code, an automated bar code, for shipping and receiving cargo and supplies through Port Hueneme and cargo staging areas, CONUS and on Station. A new TCN is created each time a piece of cargo enters the shipping system.

T&E

Transportation Entry
A shipping form: *U.S. Customs Transportation Entry* form 7512

Temperature Sensitive Cargo

Material which must be kept frozen, chilled, or prevented from freezing.
For shipping:

Keep Frozen =	-70°C to -20°C	-94°F to -4°F
Keep Chilled =	2°C to 10°C	35°F to 50°F

TSA

Transportation Security Administration

UN

United Nations

UPS

United Parcel Service

USAF

United States Air Force

USAP

United States Antarctic Program

USAP Airlift

This term refers to the scheduled movement of cargo and passengers (PAX) from Christchurch, NZ, to McMurdo Station via aircraft certified to operate in Antarctica.

USDA

United States Department of Agriculture

WinFly

Winter Fly-in
Deploying essential personnel and supplies to McMurdo Station before Mainbody. Arriving in late August, these people serve as an advance party for the start of each season.

WPM

Wooden Packaging Material

ZCM

National Weather Service airfield designator for McMurdo Station