

Research Support Plan I-477-M, Kendrick Taylor

WAIS Divide Science Coordination Office

Award Number: ANT – 0944348

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2010-2011 McMurdo Station-Based Project

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11 October 2010

Change Management and Tracking

This table documents and tracks major changes that develop following RSP distribution.

Date	Description
11 October 2010	RSP issued to PI for concurrence

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EXECUTIVE SUMMARY

Field Project Overview

This project will collect ice core samples in West Antarctica down to a depth of 3,330 m. This is a 5+ year field program that involves about a dozen research teams with coordination oversight and one field season.

Outstanding Issues

Issue #1: Provide shallow coring drill from BFC or coordinate the use of an existing PICO drill with Ian Joughin (I-157-M)

Issue #2: Cray lab to provide pyranometer sensor and datalogger to John Fegyveresi. Other peripherals may not be available and should be supplied by John. Equipment to be used from approximately 22 Nov. 10 to 02 Feb. 2011.

Participants

Deployment Schedule

Last Name	First Name	Conus-CHC	CHC-MCM	MCM-CHC	Self Ticket
Buffen	Aron	11/15/10	11/19/10	1/29/11	N
Cox	Thomas	11/15/10	11/19/10	2/2/11	N
Fegyveresi	John	11/18/10	11/22/10	2/2/11	N
Fudge	Tyler	11/15/10	11/19/10	1/29/11	N
Polk	Jeremy	12/26/10	12/30/10	1/29/11	N
Roop	Heidi	11/15/10	11/19/10	2/2/11	N
Stan	Matthew	12/26/10	12/30/10	1/29/11	N
Taylor Jr.	Kendrick	12/26/10	12/30/10	2/2/11	N
Gkinis	Vasileios	11/15/10	11/19/10	1/29/11	Y
Voigt	Donald	11/15/10	11/19/10	12/20/10	N
Winski	Dominic	11/15/10	11/19/10	1/29/11	N
Wong	Gifford	11/27/10	12/01/10	2/2/11	N
Twickler	Mark	12/26/10	12/30/10	1/15/11	Y

Cargo

	Weight (lbs)	ROS	Comments
Southbound	450	0303	
COMAIR Retrograde			
Vessel Retrograde	580	1098	

Science Construction

- Science warm-up Jamesway at arch – 10-12 sections with plywood sheeted floor
- Plywood and 2x6s for the backlit snowpit. See the uploaded construction diagram for requirements and dimensions.

- Coordinate materials with Science Construction upon arrival in McM to verify proper snow loads are supportable for this temporary snow pit.
- Install 208v outlets in Science Ractent

Lab/Office/Staging Space

Lab/Office Space

Description	Start Date	End Date	Sh/Ded	Comments
Office 184	19-Nov-10	29-Nov-10	Shared	Space shared with I-478.
Office 113	09-Dec-10	13-Dec-10	Shared	Space shared with I-478.
Office 113	30-Dec-10	06-Jan-11	Shared	Space shared with I-478.
Office 205	24-Jan-11	02-Feb-11	Shared	Space shared with I-478.
Office 207	26-Jan-11	02-Feb-11	Shared	Space shared with I-478.

On-Ice Staging

No support requested.

Temporary On-Ice Storage

Description	Start Date	End Date	Sh/Ded	Comments
South Pole Food Refrigerated Containers (-20°C)	17-Nov-10	20-Feb-11	Dedicated	4000 cft requested, See I-478-M NICL RSP
Ice Core Transit Facility (-20°C)	17-Nov-10	20-Feb-11	Shared	Backup 4000 cft requested incase of SPS Food container issues

Winter-Over On-Ice Storage

No support requested.

Field Safety and Training

Name	Course
Buffen, Aron	Snowcraft 1
Cox, Thomas	Refresher
Fegyveresi, John	Refresher
Fudge Tyler	Snowcraft 1
Polk, Jeremy	Snowcraft 1
Roop, Heidi	Refresher
Stan, Matthew	Snowcraft 1
Taylor, Jr. Kendrick	Refresher
Gkinis, Vasileios	Snowcraft 1
Voigt, Donald	Refresher
Winski, Dominic	Snowcraft 1
Wong, Gifford	Refresher
Twickler, Mark	Snowcraft1 (waiver pending)

Air Support

Fixed-Wing Aircraft

- Week ending 27 November: LC-130 will transport science equipment, passengers, and gear from McMurdo Station to WAIS Divide.
- Week ending 11 December: LC-130 will transport science equipment, passengers, and gear from McMurdo Station to WAIS Divide.
- Week ending 18 December: LC-130 will transport science equipment, passengers, and gear from McMurdo Station to WAIS Divide.
- Week ending 25 December: LC-130 will transport passengers and gear from WAIS Divide to McMurdo Station.
- Week ending 8 January: LC-130 will transport science equipment, passengers, and gear from McMurdo Station to WAIS Divide.
- Week ending 29 January: LC-130 will transport passengers and gear from WAIS Divide to McMurdo Station.

* Cold deck requests are reflected in the I-478-M (NICL) RSP for each week starting 20 Nov. through 29 Jan.

- Twin otter close support for aerial photography to be provided pending mission does not interfere with others and aircraft and crew are available. Please coordinate with camp manager and KBA crew.
- **Note:** This is a general tempo for planning purposes only. Fixed wing will accommodate requests as best possible based on the weekly schedule and mission supportability.

Note: This is a general tempo for planning purposes only. Fixed wing will accommodate requests as best possible based on the weekly schedule and mission supportability.

Helicopter Support

- No support requested.

COMPREHENSIVE RESEARCH SUPPORT INFORMATION

General Project Information

This document summarizes the resources which are allocated to the subject NSF-OPP award for the upcoming field season. Discrepancies should be presented to the Raytheon Polar Services Company (RPSC) project point of contact (POC) prior to deployment to Antarctica.

Please review this document with all field team members.

Shortly after arrival at McMurdo Station, a general orientation will be provided to the field team. Additionally, the first field team members to arrive in McMurdo will be invited to a Science In-Brief (generally the morning after arrival) to review project requirements with the support providers and the on-ice POC. Required briefings and trainings for the field team will be announced at this time. The on-ice field team leader for the project should be identified by the science group at this briefing.

Raytheon Polar Services Company is dedicated to safe operations at McMurdo and all other field locations. While deployed to Antarctica the entire research team will be expected to maintain a high awareness of safe conduct and comply with safety and health related guidance from the NSF and RPSC management. As part of the Science In-brief, each field team member will receive a copy of the Laboratory Chemical Hygiene Plan, which includes the Laboratory Code of Conduct and other information clarifying the roles and responsibilities of researchers and RPSC personnel to ensure a safe working environment in all laboratory facilities.

After arriving on station and before going into the field, each field team member must complete required laboratory and field safety training appropriate to the project's research requirements.

Note The Principal Investigator is responsible for ensuring that all applicable permits and environmental documentation have been completed prior to deployment.

Participant Information

It is the PI's responsibility to ensure that all dental, medical and travel processing requirements are addressed in a timely manner. **Participants' medical and dental exam results should already be submitted to RPSC to ensure that physically qualified (PQ) status is obtained in time for ticketing.** Please submit your Grantee Travel Request Worksheet (<http://www.usap.gov/USAPgov/travelAndDeployment/documents/DS-A-100b.pdf>) as early as possible. In order for reservations to be made and tickets to be issued, PQ status must be granted, and by NSF requirement, RPSC cannot initiate ticketing less than two weeks prior to a scheduled departure. In such situations, the alternatives are to 1) contact the program manager and request a waiver, 2) change the travel dates, or 3) purchase one's own ticket with no reimbursement from the USAP.

Each participant who purchases his/her airline tickets without the assistance of RPSC must provide their itinerary to deploy@usap.gov or via secured fax at 303-705-0742. This information ensures the participant will have hotel accommodations and an appointment to obtain cold weather clothing (ECW).

The status of the field team's PQ processing (as of the date of this report) is available in the POLAR ICE application. Weekly updates are provided to the PI or Co-PI via e-mail. If you are not receiving these status reports and would like to, please contact your RPSC POC.

The table below shows the approved deployment plan for your group. The PI, RPSC, and the NSF have set these dates. Changes must be coordinated with your RPSC POC no later than four weeks before scheduled deployment.

Note RPSC is not authorized to ticket participants for any other dates than indicated in the table below without approval from the RPSC Science Support Point of Contact (POC).

The NSF no longer authorizes RPSC to issue excess baggage coupons or to reimburse excess baggage costs on commercial carriers. The only exception is for winter-over staff.

Excess baggage for Ice flights may be allowed (ie: carrying excess baggage on flights to/from McMurdo and South Pole Stations); however, NSF approval is required. Submit the Excess Baggage Form in the link to request approval: (<http://www.usap.gov/USAPgov/travelAndDeployment/documents/DSG-DT-100AU.pdf>).

Deployment Schedule

Last Name	First Name	Conus-CHC	CHC-MCM	MCM-CHC	Self Ticket
Buffen	Aron	11/15/10	11/19/10	1/29/11	N
Cox	Thomas	11/15/10	11/19/10	2/2/11	N
Fegyveresi	John	11/18/10	11/22/10	2/2/11	N
Fudge	Tyler	11/15/10	11/19/10	1/29/11	N
Polk	Jeremy	12/26/10	12/30/10	1/29/11	N
Roop	Heidi	11/15/10	11/19/10	2/2/11	N
Stan	Matthew	12/26/10	12/30/10	1/29/11	N
Taylor Jr.	Kendrick	12/26/10	12/30/10	2/2/11	N
Gkinis	Vasileios	11/15/10	11/19/10	1/29/11	Y
Voigt	Donald	11/15/10	11/19/10	12/20/10	N
Winski	Dominic	11/15/10	11/19/10	1/29/11	N
Wong	Gifford	11/27/10	12/01/10	2/2/11	N
Twickler	Mark	12/26/10	12/30/10	1/15/11	Y

(Dates are current as of 10/6/10)

All dates are subject to change. The table below explains each column.

Column	Description
Conus-CHC	Dates participant is scheduled to leave the U.S (four days before Ice flight, allows two nights in Christchurch).
CHC-McM	Date participant is scheduled to depart Christchurch for McMurdo Station.
McM-CHC	Date participant is scheduled to redeploy from McMurdo Station to Christchurch.
Self-Ticket	"Y" indicates the participant will purchase airline tickets without the assistance of RPSC. Self-tickers must provide their itinerary (deploy@usap.gov or fax 303-705-0742). RPSC will arrange self-tickers' hotel accommodations in Christchurch, schedule a date and time to obtain cold weather clothing, and make sure they get a seat on the flight to Antarctica.

McMurdo Station Housing

You should have received NSF housing guidelines and a housing request worksheet with your deployment packet. If not already completed, please submit the housing request worksheet as soon as possible. The worksheet is also available at

<http://www.usap.gov/USAPgov/travelAndDeployment/documents/DSG-DT-100AX.pdf>

Permits

Note It is the responsibility of the Principal Investigator to obtain any required permits **before** deployment.

Ministry of Agriculture and Forestry (MAF) permits are required to transship and import samples through and into New Zealand. Due to the large volume of permit requests and processing limitations, MAF permits should be in place prior to deployment. **All permits must be presented to MAF upon transit**

through New Zealand with samples. On-ice applications will be limited to emergency situations. For MAF application procedures and forms, please contact Hope Rogers at Raytheon Polar Services (NZ) Limited, CHC-MAFPermits@usap.gov.

Antarctic Conservation Act (ACA) permits are required to enter Antarctic Specially Protected Areas (ASPA). For ACA application procedures and forms, please contact Nadene Kennedy at NSF, nkennedy@nsf.gov. ACA permits require three months processing time.

The United States Department of Agriculture (USDA) <http://www.aphis.usda.gov/> regulates importation of samples into the US. It is the responsibility of the PI to determine if a USDA permit is required. Permits can take up to 16 weeks for clearance.

Environmental Documentation

Note It is the responsibility of the Principal Investigator to ensure any required environmental documentation has been completed before deployment. Contact RPSC's Environmental Manager, Nate Biletnikoff (telephone 1-800-688-8606 ext. 32225, e-mail nathan.biletnikoff.contractor@usap.gov) for more information.

To comply with the Antarctic Conservation Act the PI or designee is required to track and report disturbances to the environment as a result of the research, planned or accidental. An environmental end of season report template will be provided to each team upon arrival in Antarctica. Please become familiar with the document so the form can be completed at the end of the field work and submitted at the Outbrief meeting before leaving Antarctica.

If the field team will go to the McMurdo Dry Valleys, each team member will be required to comply with the Dry Valley Antarctic Specially Managed Area plan. Please be prepared to track and report geographic locations of the following disturbances in the Dry Valleys that result from the project's field work: tent camps, helo landing sites, sampling sites. This information must be submitted electronically to RPSC's Environmental Department before the Outbrief meeting. An electronic template will be provided by RPSC staff.

Fuel and Liquid Waste Containment

The following containment and spill materials will be provided:

No support requested.

Cargo

Science Cargo will provide the following support:

	Weight (lbs)	ROS	Comments
Southbound	450	0303	
COMAIR Retrograde			
Vessel Retrograde	580	1098	

Keep in mind the following cargo-related information:

- Baggage and hand-carried items are not "cargo" and are not listed.
- Items purchased and shipped by RPSC for grantees are also not listed here.
- ROS (Required On Site) is the Saturday at the end of the week that cargo will be delivered at the research station (McMurdo or South Pole Stations).
- Unplanned northbound COMAIR cargo will require approval from the NSF representative on station.

Science Construction

Science Construction will provide the following support:

- Science warm-up Jamesway at arch – 10-12 sections with plywood sheeted floor
- Plywood and 2x6s for the backlit snowpit. See the uploaded construction diagram for requirements and dimensions.
- Coordinate materials with Science Construction upon arrival in McM to verify proper snow loads are supportable for this temporary snow pit.

Computers

Crary Lab IT will provide the following support:

Weekly upload of field video to grantee selected FTP site. Please coordinate with Lab IT upon arrival in McM.

LAN connections for your grantee-supplied laptops will be provided.

The same printer as was used at WAIS Divide last season will be returned to your camp for use this season.

Locally-generated (McMurdo Station) e-mail messages will be sent to the e-mail address indicated in the SIP for all team members. If the group has team members who were not identified on the SIP (example, "TBDs"), the Crary IT staff will add them to the McMurdo Station grantee list upon their arrival.

If any member of the group would like to have a McMurdo Station local account, or the group would like a 'group account' to facilitate the sharing of data and information while on station, these can be created upon your arrival either by informing the Help Desk or the Crary Lab computer coordinator.

Please reference the list of IT security guidelines at the end of this document for IT security questions.

Communications

Field Party Communications will provide the following support:

Category	Requested Item	Qty Requested	Qty Provided	Notes
VHF Radios	Motorola HT750 (without battery)	4	4	
	Motorola HT750 VHF battery	12	8	
	Lapel Mic	2	2	
	Solar Charger			
	AC Charger (Single Unit)	0	4	
	AC Charger (Bank Charger 6-slot)	1	0	
	Chest Harness			
	VHF Base Station			
HF Radios	PRC1099 Field Kit "Orange Box"	0	0	HF provided at WAIS Camp
Iridium	Iridium Field Kit (incl. handset, external antenna, AC charger, 12V Vehicle charger, spare battery)	1	0	Iridium provided at WAIS Camp
	Iridium Base Station			
	Iridium Solar Panel			
	Iridium Data Kit			
	Advisor II/Advisor Gold Pager			

Category	Requested Item	Qty Requested	Qty Provided	Notes
UPS	1KVA			
Wireless Internet to McM				
Radio Telephone Services				
Spectrum Management				
Black Gear bag	Size: (Small, Med, Lg.)	0	1	Med
Special	We require wireless connectivity at camp. Access to the small amount of available bandwidth should be controlled by issuing accounts with different priorities.	Yes	Yes	

Crary Science and Engineering Center

Because of the dynamic nature of incoming science and the continued need for research space, the laboratory staff will allocate Crary resources to accommodate science groups as best possible. **Please note that due to limited space availability, the dates listed may not be the exact dates you entered in your SIP. Please review this carefully as space will not be available before or after these dates, regardless of arrival and departure dates.** Dedicated space is in short supply – be prepared to make lab space useable to other groups during all field deployments.

Laboratory Space

Description	Start Date	End Date	Sh/Ded	Comments
Office 184	19-Nov-10	29-Nov-10	Shared	Space shared with I-478.
Office 113	09-Dec-10	13-Dec-10	Shared	Space shared with I-478.
Office 113	30-Dec-10	06-Jan-11	Shared	Space shared with I-478.
Office 205	24-Jan-11	02-Feb-11	Shared	Space shared with I-478.
Office 207	26-Jan-11	02-Feb-11	Shared	Space shared with I-478.

At the end of your deployment, you will be required to complete a laboratory check-out with the Crary staff. Please include time for this in your plans.

Laboratory Instruments and Equipment

No support requested.

Laboratory Chemicals, Gases, Cryogenics, Dry Ice, Blue Ice

No support requested.

Laboratory Materials and Supplies

No support requested.

Radioactive Materials

No support requested.

Staging and Storage Space

Staging and Storage Space requests and Laboratory Space in the RSP are listed separately. Please contact your POC with concerns that the space allocated to the group will not be sufficient. Lab space is very limited, and **if it is not listed in the RSP, there is no guarantee additional space can be found** once you are in McMurdo.

Personal gear storage will be available through Science Cargo via a secured, unheated milvan. Please take advantage of this location to store your gear as other groups may be using the lab and office space while you are in the field.

On-Ice Staging

No support requested.

Temporary On-Ice Storage

Description	Start Date	End Date	Sh/Ded	Comments
South Pole Food Refrigerated Containers (-20°C)	17-Nov-10	20-Feb-11	Dedicated	4000 cft requested, See I-478-M NICL RSP
Ice Core Transit Facility (-20°C)	17-Nov-10	20-Feb-11	Shared	Backup 4000 cft requested incase of SPS Food container issues

Winter Over On-Ice Storage

No support requested.

Over-winter storage is contingent upon funding for the following season or NSF approval. If you have questions, please refer to the USAP On-Ice Storage Policy # AIL-07-01 and the USAP Field Laboratory Over-Winter Storage Policy #AIL-09-01. These can be found at: <http://www.usap.gov/USAPgov/proposalInformation/#Policies>

Diving

No support requested.

Research Associate Services

No support requested.

Spatial Analysis, Remote Sensing, and GIS Support

No support requested.

Geodetic Support

No support requested.

Ultraviolet Data Services

UVSIMN data is unavailable for the 2010-2011 season.

Ice Core Drilling Support

ICDS-IDDO will work with grantees to provide support as requested within the guidelines of the NSF. Please contact ICDS-IDDO with any support related questions:

Tony Wendricks
ICDS-IDDO Project Coordinator
e-mail: tonyw@ssec.wisc.edu
phone: (608) 263-6755
<http://www.ssec.wisc.edu/icds/>

National Ice Core Laboratory (NICL) Ice Core Support Service

NICL will work with grantees to provide support as requested within the guidelines of the NSF. Please contact NICL with any support related questions:

Geoffrey Hargreaves
Curator, National Ice Core Laboratory
e-mail: nicl@usgs.gov
phone: (303) 202-4830
<http://nicl.usgs.gov/>

Berg Field Center (BFC) Field Equipment

Please see table at the end of this document for the BFC allocation.

Field Safety and Training

All new USAP personnel who may travel away from McMurdo Station (or any of the Airfield areas) will be required to complete the Snowcraft 1 course prior to going to the field. This is a two-day overnight course. All participants traveling via helicopter will be required to complete the helicopter safety portion on the Snowcraft 1 course. Personnel embarking on trips via the sea ice will be required to complete a full day sea ice course.

All returning USAP personnel going into the field and with prior completion of a Snowcraft 1 and a sea ice course may attend a refresher course. This course is approximately 4-5 hours and includes the sea ice refresher and helicopter safety. Personnel returning to the Antarctic after a break of five or more years do not qualify for refresher training and must attend the full two-day Snowcraft 1 course again. For parties traveling in crevassed areas, Snowcraft 2 or a demonstration of crevasse rescue skills will be required.

Name	Course
Buffen, Aron	Snowcraft 1
Cox, Thomas	Refresher
Fegyveresi, John	Refresher
Fudge Tyler	Snowcraft 1
Polk, Jeremy	Snowcraft 1
Roop, Heidi	Refresher
Stan, Matthew	Snowcraft 1
Taylor, Jr. Kendrick	Refresher
Gkinis, Vasileios	Snowcraft 1
Voigt, Donald	Refresher
Winski, Dominic	Snowcraft 1
Wong, Gifford	Refresher
Twickler, Mark	Snowcraft1 (waiver pending)

Air Support

Fixed-Wing Aircraft

The following support will be provided:

- Week ending 27 November: LC-130 will transport science equipment, passengers, and gear from McMurdo Station to WAIS Divide.
- Week ending 11 December: LC-130 will transport science equipment, passengers, and gear from McMurdo Station to WAIS Divide.
- Week ending 18 December: LC-130 will transport science equipment, passengers, and gear from McMurdo Station to WAIS Divide.
- Week ending 25 December: LC-130 will transport passengers and gear from WAIS Divide to McMurdo Station.
- Week ending 8 January: LC-130 will transport science equipment, passengers, and gear from McMurdo Station to WAIS Divide.
- Week ending 29 January: LC-130 will transport passengers and gear from WAIS Divide to McMurdo Station.

* Cold deck requests are reflected in the I-478-M (NICL) RSP for each week starting 20 Nov. through 29 Jan.

- Twin otter close support for aerial photography to be provided pending mission does not interfere with others and aircraft and crew are available. Please coordinate with camp manager and KBA crew.

Note: This is a general tempo for planning purposes only. Fixed wing will accommodate requests as best possible based on the weekly schedule and mission supportability.

*Flight dates are approximate and are subject to change due to weather, aircraft availability, logistical constraints, NSF priorities, etc. You will be notified of any changes and/or updates to your fixed-wing support.

*Fixed Wing planning is based on a six-day flight week beginning on Monday and ending on Saturday of each week.

Helicopter

The following support will be provided:

No support requested.

*Mission Time is defined as the aggregate of Flight Time + Close Support Time.

*Flight dates are approximate and are subject to change due to weather, aircraft availability, logistical constraints, NSF priorities, etc. You will be notified of any changes and/or updates to your helicopter support.

Icebreaker Support

No support requested.

Mechanical Equipment Center (MEC)

The MEC will provide the following support:

Equipment	Quantity	Dedicated/Pool	Comments	Dates
*Snowmobile, Heavy Duty, 2	1	D	At WAIS Divide field camp	11/1-2/4
Battery, 100 amp hour, Gelcel	2	D	Pickup in McM	11/1-2/4
Battery charger	1	D	Pickup in McM	11/1-2/4
Inverter, 125/150 W	1	D	Pickup in McM	11/1-2/4

Heavy Equipment and Explosives

No support requested.

Closeout Procedures

Principal Investigator or field team leader responsibilities:

- At least two weeks before departure:
 - Ensure that the field team has submitted redeployment forms to the Chalet staff. The preferred approach is to submit the forms upon arrival and update it later.
 - Confirm with the Crary Lab staff that all individuals hand carrying and shipping samples via New Zealand have the appropriate MAF permits. This does not pertain to samples traveling on the vessel.
- At least a week before departure:
 - Schedule an Outbrief Meeting with the Crary Lab Administrative Coordinator (required for each field at the end of the field season).
 - Appoint a field team member to complete a final checkout for the group. RPSC will provide a checklist that ensures all procedures are understood and followed, including equipment cleanup and return to the Berg Field Center, the Mechanical Equipment Center and the Crary Laboratory.
 - Organize any over-winter storage with Crary Lab Staff. Storage space is contingent upon funding for the following season or NSF approval. (Reference: USAP On-Ice Storage Policy # AIL-07-01 and the USAP Field Laboratory Over-Winter Storage Policy #AIL-09-01. Location: <http://www.usap.gov/USAPgov/proposalinformation/#Policies> .)
 - Radioisotope users must schedule a checkout with the Crary Laboratory Manager.
- Ensure that all wastes are packaged and labeled according to USAP procedures.
- Ensure that all original customs forms authorizing hand carry of technical equipment through New Zealand are returned to RPSC's travel supervisor after returning to the United States.

ATTACHED INFORMATION AND TABLES

Grantee Arrival Checklist
Berg Field Center (BFC) Allocation
Outbrief Notification Letter
IT Security Guidelines
Terms and Acronyms

Grantee Arrival Checklist

Team Requirements	Planning Subject	Activity Description	Estimated Time	Department Contact	EXT	Completed
✓	On-Ice POC	Meet with On-Ice POC to discuss their taking over the primary responsibility of facilitating any issues regarding project support from your POC in Denver.	15 min - 1 hour	Cara Ferrier	2067	
✓	Accept Cargo	Locate and unpack the cargo that your team sent to McMurdo Station from your home institution. Grantee cargo and lab allocated equipment can be retrieved through the Crary Lab Stockroom.	Variable as to cargo requirements.	Sally Moore <i>Crary Lab Materials Senior</i>	4192	
✓	Science Construction Materials	Meet with Science Construction Coordinator to discuss construction needs.	15 min - 1 hour	<i>Science Construction Coordinator</i>	2236	
✓	Computer Equipment	Finalize computer support needs. Check laptops for current virus signatures.	15 min to 1 hour	Karen Joyce <i>Computer Services Crary Laboratory</i>	4177	
	Pre-Field Communications Briefing	Before receiving communications equipment (radios and/or Iridium units) meet with Mac Ops Coordinator to receive communications briefing, establish check-in schedule, and review radio protocol.	30 –45 min— MacOps	Shelly Campbell <i>MacOps Coordinator</i>	2821	
✓	Communications Equipment Issue	After meeting with Mac Ops Coordinator (see above) make an appointment for the issue of communications equipment for the IT Communications Shop.	30 min – 1 hour	Bill Nesbit <i>IT Communications Supervisor</i>	2796	
✓	Lab Space Allocation & Permits	Meet with the Crary Lab Staff to locate your allocated lab and office space and lab orientation. Confirm with Crary Lab Staff that MAF permits are on file for every individual transporting samples through or into New Zealand. Check permit accuracy and inclusion of all sample types.	25 min	Cara Sucher <i>Crary Lab Manager</i>	4169	
	Meet with Diving Supervisor	Meet to discuss procedures and emergency response. Conduct check-out dive.	1/2 day	Rob Robbins/Steve Rupp <i>Scientific Diving Supervisor, Dive Services</i>	2354	
✓	Accept Field Equipment	Visit the BFC and locate cage space. Look over equipment to ensure it will be functional for field needs.	1/2 - 2 days	Jessy Jenkins <i>Supervisor, Berg Field Center</i>	2348	
✓	Organize Field Food	Make an appointment at the BFC Food Room to discuss the process of menu planning, become familiar with the inventory and the barcode scanner, and make arrangements to pull and pack food for your stay in the field.	Pre food pull: 15 min. Food Pull: 1/2 -1 day	Peggy Malloy <i>Assistant Supervisor, Food Room</i>	2461	
	Retrieve Comprehensive Medical Packs	Make an appointment to pick up the medical and pharmaceutical pack – required only if indicated in the Field Support Section of the Research Support Plan.	30 min	<i>Medical Staff</i>	2551	
✓	Collect Mechanical Equipment	Pick up and get basic instruction on mechanical equipment required. This will not include snowmachines.	1 hour	Tony Buchanan <i>Supervisor, Mechanical Equipment Center</i>	2352	
✓	Prepare Equipment for Transport	Any cargo that will be transported into the field via aircraft will need to be prepared for travel. The alternate transportation styles will have different requirements. Seek the assistance of the Department Contacts. REMEMBER: ALL HAZARDOUS CARGO NEEDS TO BE SPECIALLY PACKAGED AND CERTIFIED 2-3 DAYS BEFORE TRAVEL.	1/2-2 days to pack 3 days prior to travel 1/2-2 days to pack 2 days prior to travel	Liz Kauffman <i>Supervisor, Fixed Wing</i> Brian Connell <i>USAP Cargo Supervisor</i> Susie Lyons <i>Supervisor, Helicopter Ops</i>	2529 2546 2277	
✓	Visit with Fixed Wing Coordinator	Meet with Coordinator to finalize and verify field plans.	30 minutes	Liz Kauffman <i>Supervisor Fixed Wing</i>	2529	
	Visit with Helicopter Coordinator	Meet with Coordinator to finalize and verify field plans.	30 minutes	Susie Lyons <i>Supervisor, Helicopter Ops</i>	2277	
✓	Training Course	Field Safety Training Courses:				
	Depending upon prior experience and study area, some of the following courses must be taken. Refer to RSP for assignments.	Snowcraft I:	2 days, 1 overnight	Pam Hill <i>Field Support Coordinator</i>	2356	
		Snowcraft Refresher:	1/2 day			
		Sea Ice:	1 day			
		Sea Ice Refresher:	1/2 day			
		GPS:	3 hours			
		Altitude Training:	1 hour			
		Helicopter Training:	1 hour			
		Mechanical Equipment Courses:				
		Antarctic Driver's License	30 minutes	Sally Lyon <i>Asst. Supervisor, MEC</i>	2352	
		Matrack Driving	1 hour			
		Pisten Bully Driving	1-2 hours			
		Snowmobile Driving and Repair	3 hours			
		Other MEC equipment (hole melters, generators, chainsaws, drills, etc.)	varies			

BFC Allocation

Name	Total Issued	UOI	Total Weight	Total Cube	Notes
Bowl, Soup	10	ea	3.00	1.00	warming shack
Broom, Kitchen	2	ea	4.60	4.00	
Broom, Whisk	2	ea	1.00	0.60	
Carabiner, Sledge, for sled use	1	ea	0.50	0.10	
Cargo/Duffle Bag	14	ea	42.00	4.20	
Chair, crazy creek	13	ea	13.00	13.00	
Coffee Maker, Mr. Coffee, 12 cup electric	1	ea	15.00	1.50	warming shack
Cot, Low, metal or wood, 8"x 76"x 30"	14	ea	112.00	56.00	
Dustpan	2	ea	2.00	0.60	
Ensolite Pad, 1/2"x28"x84"	28	ea	140.00	28.00	
Garbage Can, Metal, 32 gal.	2	ea	46.00	10.00	
Heat pack, Hand, by the pair	500	pr	50.00	0.00	
Microwave Oven	1	ea	38.00	2.00	warming shack
Mug, Insulated	10	ea	3.00	1.00	warming shack
Paracord, aka P-cord, standard	200	ft	20.00	0.00	
Pile Liner	14	ea	56.00	14.00	
Pillow, Camp	14	ea	7.00	4.20	
Plate	10	ea	3.00	6.00	warming shack
Purrell, waterless soap	12	ea	1.20	1.20	
Rope, Nylon, 1/4" (100'/spool)	500	ft	50.00	150.00	
Saw, Hand	1	ea	1.50	0.50	
Saw, Snow	1	ea	0.20	0.30	
Shovel, Grain	4	ea	20.00	12.00	
Shovel, Long Round	2	ea	14.00	6.00	
Shovel, Long Square	2	ea	14.00	6.00	
Shovel, Short Round	2	ea	10.00	4.00	
Shovel, Short Square	2	ea	10.00	4.00	
Sled, Nansen, w/ Rigid Towbar	1	ea	122.00	40.00	
SLEEPING BAG, OVER 6' TALL	3	ea	30.00	0.00	
SLEEPING BAG, UNDER 6' TALL	11	ea	99.00	0.00	
Spoon, Table	10	ea	1.00	1.00	warming shack
Stakes, bamboo for tents (deadmen)	50	ea	25.00	15.00	
Tape, Duct	6	ea	10.80	0.60	
Tape, Electrical	6	ea	0.60	0.60	
Tape, Strapping	40	ea	40.00	4.00	
Thermarest	14	ea	70.00	14.00	
Thermos, 1 QT Nissan (includes camo)	14	ea	35.00	4.20	
Urine bottle, 32 oz.	28	ea	8.40	5.60	
Urn, hot water	1	ea	0.00	0.00	warming shack
Water Bottle Warmer	14	ea	4.20	4.20	

Name	Total Issued	UOI	Total Weight	Total Cube	Notes
Water Bottle, 1 QT, Nalgene	14	ea	4.20	2.80	
Approximate Weight/Cube Total			1,131.80	426.20	

Outbrief Notification Letter

Dear Researcher,

At the end of your deployment to Antarctica, the PI or designee will be asked to attend a meeting called an Outbrief hosted by Raytheon. An Outbrief is an informal way for the USAP to solicit comments on the overall productivity of the science team's work in Antarctica with a primary focus on the topics listed below. Please be prepared to discuss/provide information related to these meeting goals:

- determine whether the scientific goals of the science project were achieved
- obtain explicit statements on the direct logistical support for the current field season and how that support positively or negatively impacted the field team's ability to conduct science
- solicit suggestions for improving the quality of USAP support
- gather information for planning the next field season
- provide information related to the Government Performance and Results Act (GPRA) -- an online survey which aims to assist NSF fulfill its requirement to report on the effectiveness of USAP facilities <http://www.usap.gov/surveys>
- submit the Customer Satisfaction Survey

In McMurdo, the Crary Laboratory Administrative Coordinator will work with the PI or designee to schedule a convenient meeting time a few days before redeployment. At the other Stations and Vessels, the lead Raytheon staff member will schedule this meeting with the science team.

The meeting is generally led by the Raytheon Science Support Staff and, if present, the on-site NSF Representative or NSF Science Representative. A report summarizing the statements made at the Outbrief will be distributed after the meeting.

The information that is provided at the Outbrief is particularly useful to RPSC and NSF to fine tune future support, both specific to each project and for overall improvements. If a grant is continuing for the next field season, it is an opportunity to express thoughts about changes or adjustments to the level of support that may improve research success in future seasons.

Regards,

The Raytheon Polar Services Science Planning Group

IT Security Guidelines

Computer Security

The U.S. federal government requires security and operational practices for computing systems in all government funded programs. The United States Antarctic Program's (USAP) compliance with this federal requirement entails the screening of all computers prior to connecting to the USAP network (wired or wireless). The following requirements are aligned with the NSF Computer Security Policy and apply to all personal, science, and business equipment that will connect to the USAP network. Please direct inquiries to the USAP Help Desk at (720) 568-2001 or helpdesk@usap.gov.

General System Requirements

Administrator Access

Obtain the Administrator password for personal computers prior to deployment. Technicians must have the authority to log on to personal computers at an Administrator level. This enables the screener to accurately review the system configuration and run screening software. If an Administrator password is not available, the screening process, as well as the ability to connect to the USAP network and its resources, will be delayed.

Media

Participants should consider bringing their laptop's original OS installation disks and software registration numbers to assist the computer staff in repairing them, in the unlikely event that they experience hardware or software failures either in transit or while on the Ice.

Connectivity

Participants must provide all the equipment necessary to connect the computer system to a network, including the NIC (network interface card), cables, external adapters, device drivers, etc. All equipment must be in working order.

Antivirus

For computers running McAfee antivirus software, the Admin ID and password are needed to configure the software to update automatically from a local USAP server. Raytheon Polar Services Company (RPSC) can provide current DAT files for McAfee and Norton users. All other antivirus software users must ensure proper updates are installed and the computer is virus free prior to deployment.

Patches

All computing devices should be updated to the current levels for the operating system and security patches. Applications should also be updated, as provided by the manufacturer to include the latest security patches.

Client and Server Software

- Client software used for the purposes of email and web browsing, and other client software, such as SSH and SFTP are permitted.
- Web cameras for training, meetings, educational outreach programs, official business, or personal use is permitted according to NSF policy and with the approval of NSF
- Peer-to-peer (P2P) software, e.g., Kazaa and BitTorrent, are not allowed.
- Email server software that provides SMTP/POP port services should not be used without prior permission.

- Web server software that provides HTTP/HTTPS/FTP services should not be utilized without prior permission.
- Use of non-USAP supported Voice-over Internet Protocol (VoIP) software (Skype™, etc.) is prohibited.
- Network management services, like DNS and SNMP, should not be running.

Personal Use of the Internet: Some limited personal use of Internet services is permitted, provided it does not interfere with the participant's work or the work of others. Extreme care must be taken regarding content matter. Typical authorized limited personal Internet use includes:

- Accessing travel information, forms or information on the intranet or Internet.
- Accessing parent organization information and online resources.
- Accessing state and local government agencies on personal matters.
- Work-related events, such as technical symposiums, classes, and presentations.
- Activities sponsored by the program, such as station recreational activities.
- Events and activities specific to a particular USAP station or organization.
- Program-sanctioned activities, such as blood drives, sanctioned clubs, and organizations.
- Communications of reasonable duration using instant messaging applications.
- Recreational web-browsing of a reasonable duration, during off-duty hours, that does not violate other elements of this policy and does not conflict with mission activities.

Operating System Specifications

Operating systems (OS) have certain criteria that must be met in order to pass the computer screening process. All operating systems should be currently supported by the operating system vendor.

If a user's OS is not in one of the below categories, their connection to the network must be evaluated at a USAP location by an IT technician prior to connecting to the USAP network.

Apple

Mac OS systems running current antivirus software are permitted to connect to the USAP infrastructure at any station.

Linux

Linux systems/partitions running current antivirus software are permitted to connect to the USAP infrastructure at any station. If the computer is configured to dual boot with Microsoft, the Windows partition must comply with the criteria stated below for Microsoft systems.

Microsoft

Ensure the following conditions are met:

- Windows XP Service Pack 2 (SP2) or Windows Vista with all hot fixes.
- Current antivirus software with latest virus definition files (DAT files).
- Complete/full system virus scan within the previous two weeks.

Computer Screening Process

Screening technicians will gather computer information and make it available to all technicians performing screenings on station. Users found using the USAP network without a screening rating of PASS may be limited in their network access until updates can be made or additional security can be applied. Computers will be screened for supported operating systems, current antivirus software, and preferably automatic updates for both. If possible, applications should have the latest updates as well.

Continuous Monitoring

All users' devices (including governmental, commercial, grantee, and personal) connected to the USAP information infrastructure are subject to continuous monitoring for quality of service (QoS), security vulnerabilities, attacks, threats, risks, and violations of the Enterprise Rules of Behavior. Users are required to work with their IT point of contact (POC) to remediate weaknesses in their systems in a timely manner to reduce the risks to the USAP environment. NSF Management may rate limit, segregate, block, or disconnect without notice any user or device that poses an unacceptable threat or risk to the USAP. Should your system be identified as having security vulnerabilities which pose a risk to USAP resources or other science projects, you will be expected to remediate those vulnerabilities within a reasonable time frame.

Wireless Encryption

Use of USAP provided wireless access points at USAP locations must be approved via local IT personnel before access is provided. Since a greater level of insecurity exists on a wireless network, data transmitted over the wireless network may not be secure, and appropriate precautions should be taken. Effective August 1, 2009, WiFi Protected Access (WPA) is the minimum requirement.

USAP Firewall

Due to changes in the USAP information security posture directed by NSF OPP, our approach to firewall management has changed. If you require connectivity other than e-mail, outgoing file transfers, or web-based applications between your workstations and other systems at your home institution or another collaborating location, you will need to contact us for approvals and to set up the connection through the firewall.

Note If you have already supplied information and have received approval for this through the SIP/RSP process, there is no need to re-contact us.

Terms and Acronyms

Term	Definition
ACA	Antarctic Conservation Act.
BFC	Berg Field Center. The facility at McMurdo Station that houses and distributes field party equipment such as camping gear, waste disposal supplies and sleds.
CHC	Christchurch, New Zealand. The departure point for groups deploying to the Antarctic continental research stations.
CONUS	Continental United States.
DSG	Deployment Specialist Group. The organization within RPSC that makes participant travel arrangements.
ECW	Extreme Cold Weather. The clothing and personal gear loaned to participants during their Antarctic deployments.
MAF	New Zealand Ministry of Agriculture & Forestry.
MCM	McMurdo Station.
MEC	Mechanical Equipment Center. The facility at McMurdo Station that houses and distributes mechanical equipment, such as generators, vehicles and solar power units.
PI	Principal Investigator.
POC	Point of Contact. The person assigned to your project for planning the logistical support that will be provided to you by RPSC during your fieldwork. Your on-ice POC may be different from the one assigned during the planning phase of your logistical support.
PQ	Physical qualification.
PSM	Planning Support Manager.
PSS	Planning Support Specialist.
PSC	Planning Support Coordinator.
RPSC	Raytheon Polar Services Company. The support contractor providing logistical support to grantees in Antarctica.
RSP	Research Support Plan. This document which describes the support to be provided to field parties.
SIP	Support Information Package. An online form that describes support logistics, equipment and supplies requested by science groups.
ASPA	Antarctic Specially Protected Area.
TRW	Travel Request Worksheet.
USAP	United States Antarctic Program.