

# Support Information Package

## South Pole - 2020-2021 Season *Applicant Version*

<b>Project Name:</b>	Collaborative Research: IceCube Gen2 Phase 1; an IceCube extension for precision neutrino physics and astrophysics
<b>Principal Investigator:</b>	Kael Hanson
<b>Event Number:</b>	A-334-S
<b>Award Number:</b>	1719277
<b>Project Dates:</b>	01 Oct 2020 to 30 Sep 2021
<b>Printed on:</b>	Wednesday, 29 April, 2020 at 10:30 MST
<b>Printed for:</b>	Dar Gibson

### Summary of Sections

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## Project Information

**Welcome** to the first page of this worksheet where you will define your project's support requirements. You may navigate through all required pages by clicking the "Continue" button, or select a specific page by clicking any tab or link in the left navigation bar. Your information is automatically saved as you navigate from each page. If you would like to see the overall worksheet site map with a brief description of the information we gather on each page, click the "Site Map" link under **Worksheet Tools** in the left navigation bar and hover your mouse over the "i" icons.

Use this page to describe your research project. This information is required.

### \* Project Description

#### History

The IceCube detector comprises 86 strings of 60 deep-ice Digital Optical Modules (DOMs), deployed between 1450 m and 2450 m depth, and 81 surface stations each containing four DOMs frozen in shallow tanks. Included in the scope of detector construction was the development and construction of a deep-ice Enhanced Hot Water Drilling (EHWD) system, led by the Physical Sciences Laboratory (PSL) at the University of Wisconsin - Madison.

#### Upgrade A-334-S

The IceCube Upgrade will deploy seven additional strings of optical sensors in the bottom center of the current IceCube detector. The new strings will use multi-Photo Multiplier Tube (PMT) Digital Optical Modules (mDOMs) which provide better directionality, and more than double the photocathode area per module, than traditional IceCube DOMs. The EHWD used previously will be upgraded and optimized for the needs of the proposed one-season drill campaign in the 22/23 season.

### \* Field Overview

On-Ice activities for the 2020 - 2021 season at the South Pole include:

1. Complete the upgrades and repairs to EHWD subsystems that were identified in the 2019/2020 season.
2. Set up EHWD in drill configuration to fully inventory hoses, cables, interconnects and evaluate system as a whole.
3. Install and test new Allen Bradley motor drives for drill control system.
4. Limited wet testing of pumps and water heaters with water or glycol.
5. Complete modifications to ICL East Tower for Upgrade surface cable entry.
6. Traverse 3 Ice Cube generators to South Pole and complete repairs.
7. Traverse Independent Firm Drill (IFD), associated components and fuel day tank to South Pole
8. Begin recommissioning of ARA (Antarctic Rodwell Apparatus) system

### Project Web Site

Important: Please leave blank if the project does not have a website.

<https://icecube.wisc.edu>

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## Project Information :: Participant Roster

There are **29** participants assigned to this project.

Benson, Mr. Terry Leroy (m)	Project Information	Deployment Information
<p>3823 Coyt Rd Cottage Grove, WI 53527 tbenson@psl.wisc.edu ph: (608) 345-7417 fax: N/A Inst: University of Wisconsin Madison</p>	<p>Project Role: Primary Contact SIP Access: Read/Write Excess Baggage pieces / total pounds / direction 0 0</p>	<p>? Alternate Deployment Yes Has Current Passport Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN Nationality of Passport: United States Passport Expiration Date: February, 2025 Age at Deployment: 40-49 Deploying with other events? List event numbers:</p>
Birrittella, Barbara Mae (f)	Project Information	Deployment Information
<p>110 N Livingston St Apt 272 Madison, WI 53703 bbirrittella@wisc.edu ph: (715) 225-6585 fax: N/A Inst: University of Wisconsin Madison</p>	<p>Project Role: Project Participant SIP Access: None Excess Baggage pieces / total pounds / direction 2 100</p>	<p>Yes Is Deploying Yes Has Current Passport Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN Nationality of Passport: United States Passport Expiration Date: September, 2021 Age at Deployment: Under 35 Deploying with other events? List event numbers:</p>
Duling, Mr. Dennis V. (m)	Project Information	Deployment Information

<p>11600 NW 70th Street Raymond, NE 68428 dulingde@yahoo.com ph: (608) 354-8169 fax: (608) 263-6738 Inst: University of Wisconsin Madison</p>	<p>Project Role: Primary Contact SIP Access: Read/Write Excess Baggage</p> <p>pieces / total pounds / direction 0 0</p>	<p>? Alternate Deployment Airport of Departure: Lincoln, NE [Lincoln Municipal Airport], USA - LNK Nationality of Passport: United States Passport Expiration Date: February, 2028 Age at Deployment: 60 + Deploying with other events? List event numbers:</p>
<p><b>Edwards, Ms. Jeanne MarieTeresa (f)</b></p>	<p><b>Project Information</b></p>	<p><b>Deployment Information</b></p>
<p>79 S. Gardens Way Fitchburg, WI 53711 jmedwards5@wisc.edu ph: (608) 347-4058 fax: N/A Inst: University of Wisconsin Madison (Physics)</p>	<p>Project Role: Project Participant SIP Access: None Excess Baggage</p> <p>pieces / total pounds / direction 0 0</p>	<p>Yes Is Deploying Yes Has Current Passport Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN Nationality of Passport: United States Passport Expiration Date: April, 2025 Age at Deployment: 50-59 Deploying with other events? List event numbers:</p>
<p><b>Ejdepalm, Erik NMI (m)</b></p>	<p><b>Project Information</b></p>	<p><b>Deployment Information</b></p>
<p>Fransta 32 Knivsta SE-74195 Sweden erik.ejdepalm@protonmail.com ph: 046 723 613 792 fax: N/A Inst: (Other)</p>	<p>Project Role: Project Participant SIP Access: None Excess Baggage</p> <p>pieces / total pounds / direction</p>	<p>Yes Is Deploying Yes Has Current Passport Airport of Departure: Stockholm, [Arlanda], Sweden - ARN Nationality of Passport: United States Passport September, 2021</p>

	<p>0 0</p>	<p>Expiration Date: Age at Deployment: 35-39 Deploying with other events? List event numbers:</p>
Feyzi, Mr. Farshid NMI (m)	Project Information	Deployment Information
<p>5642 Silver Oak Drive Fitchburg, WI 53711 farshid.feyzi@icecube.wisc.edu ph: (608) 469-3909 fax: N/A Inst: University of Wisconsin Madison (Physics)</p>	<p>Project Role: Primary Contact SIP Access: None Excess Baggage pieces / total pounds / direction 0 0</p>	<p>Yes Is Deploying Yes Has Current Passport Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN Nationality of Passport: United States Passport Expiration Date: November, 2025 Age at Deployment: 60 + Deploying with other events? List event numbers:</p>
Folmer, Mr. Brent T. (m)	Project Information	Deployment Information
<p>8500 N. County Rd. F Edgerton, WI 53534 bfolmer@westphalec.com ph: (608) 884-7705 fax: N/A Inst: University of Wisconsin Madison</p>	<p>Project Role: Project Participant SIP Access: None Excess Baggage pieces / total pounds / direction 0 0</p>	<p>? Alternate Deployment Yes Has Current Passport Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN Nationality of Passport: United States Passport Expiration Date: Age at Deployment: 40-49 Deploying with</p>

		<p>other events? List event numbers:</p>
Gibson, Mr. Dar Ethan (m)	Project Information	Deployment Information
<p>16 Old Stage Rd Williston, VT 05495 dgibson@icecube.wisc.edu ph: (802) 379-1203 fax: N/A Inst: University of Wisconsin Madison</p>	<p>Project Role: Primary Contact SIP Access: Read/Write X Excess Baggage pieces / total pounds / direction 2 100 South</p>	<p>Yes Is Deploying Yes Has Current Passport Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN Nationality of Passport: United States Passport Expiration Date: August, 2027 Age at Deployment: 40-49 Deploying with other events? List event numbers:</p>
Hanson, Dr. Kael Dylan (m)	Project Information	Deployment Information
<p>222 West Washington Ave Madison, WI 53703-2775 kaeld@icecube.wisc.edu ph: (608) 890-0540 fax: N/A Inst: University of Wisconsin Madison (Department of Physics)</p>	<p>Project Role: Principal Investigator (PI) SIP Access: Read/Write Excess Baggage pieces / total pounds / direction 0 0</p>	<p>? Alternate Deployment Yes Has Current Passport Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN Nationality of Passport: United States Passport Expiration Date: Age at Deployment: 40-49 Deploying with other events? List event numbers:</p>

Haugen, Mr. James M. (m)	Project Information	Deployment Information
222 West Washington Ave. Suite 500 Madison, WI 53703 haugen@icecube.wisc.edu ph: (608) 261-1430 fax: (608) 262-2309 Inst: University of Wisconsin Madison (Department of Physics)	Project Role: <a href="#">Alternate Contact</a> SIP Access: <a href="#">Read/Write</a> Excess Baggage pieces / total pounds / direction 0 0	Is <b>NOT</b> Deploying Airport of Departure: Nationality of Passport: Passport Expiration Date: Age at Deployment: Deploying with other events? List event numbers:
Kalin, Mr. Jonas NMI (m)	Project Information	Deployment Information
Asogatan 198 Stockholm 11632 Sweden jonas.kalin@gmail.com ph: 046 730 89 99 11 fax: N/A Inst: University of Wisconsin Madison	Project Role: <a href="#">Project Participant</a> SIP Access: <a href="#">None</a> Excess Baggage pieces / total pounds / direction 0 0	<a href="#">Yes</a> <a href="#">Is Deploying</a> <a href="#">Yes</a> <a href="#">Has Current Passport</a> Airport of Departure: <a href="#">Stockholm, [Arlanda], Sweden - ARN</a> Nationality of Passport: <a href="#">Sweden</a> Passport Expiration Date: <a href="#">September, 2024</a> Age at Deployment: <a href="#">50-59</a> Deploying with other events? List event numbers:
Lemery, Mr. Jeffrey Jordan (m)	Project Information	Deployment Information
Madison, WI 53703 jlemery@psl.wisc.edu ph: (123) 456-7891 fax: N/A Inst: University of Wisconsin Madison	Project Role: <a href="#">Project Participant</a> SIP Access: <a href="#">None</a> Excess Baggage pieces / total pounds / direction 0 0	<a href="#">?</a> <a href="#">Alternate Deployment</a> <a href="#">Yes</a> <a href="#">Has Current Passport</a> Airport of Departure: <a href="#">Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN</a> Nationality of Passport: <a href="#">United States</a> Passport Expiration Date: Age at Deployment: <a href="#">35-39</a> Deploying with other events?

		List event numbers:
<b>Nesbit, Jacob Daniel (m)</b>	<b>Project Information</b>	<b>Deployment Information</b>
221 Grand Canyon Drive, Apt #4 Madison, WI 53705 jnesbit@wisc.edu ph: (715) 559-2552 fax: N/A Inst: University of Wisconsin Madison	Project Role: Project Participant SIP Access: None Excess Baggage pieces / total pounds / direction 0 0	Yes Is Deploying Yes Has Current Passport Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN Nationality of Passport: United States Passport Expiration Date: September, 2027 Age at Deployment: Under 35 Deploying with other events? List event numbers:
<b>Ng, Mr. Christopher Josiah (m)</b>	<b>Project Information</b>	<b>Deployment Information</b>
627 Puffin Pl East Lansing, MI 48823 christopher.ng@icecube.wisc.edu ph: (517) 940-0823 fax: N/A Inst: Michigan State University	Project Role: Project Participant SIP Access: None Excess Baggage pieces / total pounds / direction 0 0	Yes Is Deploying Yes Has Current Passport Airport of Departure: Lansing, MI [Capital City Airport], USA - LAN Nationality of Passport: United States Passport Expiration Date: December, 2027 Age at Deployment: 35-39 Deploying with other events? List event numbers:
<b>Oxborough, Alexis Rae (f)</b>	<b>Project Information</b>	<b>Deployment Information</b>



<p>301 South Livingston St. Apt 101                  Madison, WI 53703                  oxborough@wisc.edu                  ph: (612) 214-0284                  fax: N/A                  Inst: University of Wisconsin Madison</p>	<p>Project Role: Project Participant                  SIP Access: None                  Excess Baggage</p> <p>pieces / total                  pounds / direction                  0 0</p>	<p>Yes Is Deploying                  Yes Has Current Passport                  Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN                  Nationality of Passport: United States                  Passport Expiration Date: November, 2025                  Age at Deployment: Under 35                  Deploying with other events?                  List event numbers:</p>
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Roberts, Mr. Graham Wallace (m)	Project Information	Deployment Information
<p>909 W. Sierra Madre                  Fresno, CA 93705                  cm3h2o@gmail.com                  ph: (559) 284-0128                  fax: N/A                  Inst: University of Wisconsin Madison</p>	<p>Project Role: Project Participant                  SIP Access: None                  Excess Baggage</p> <p>pieces / total                  pounds / direction                  0 0</p>	<p>Yes Is Deploying                  Yes Has Current Passport                  Airport of Departure: Fresno, CA [Fresno Yosemite International Airport], USA - FAT                  Nationality of Passport: United States                  Passport Expiration Date: August, 2028                  Age at Deployment: 35-39                  Deploying with other events?                  List event numbers:</p>

Roth, Mr. James Andrew (m)	Project Information	Deployment Information
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<p>45 Cimarron Circle                  Elkton, MD 21921                  roth@bartol.udel.edu                  ph: (302) 530-6246                  fax: N/A                  Inst: University of Delaware (Bartol                  Research Institute)</p>	<p>Project Role: Project Participant                  SIP Access: None                  Excess Baggage                  pieces / total                  pounds / direction                  0 0</p>	<p>Yes Is Deploying                  Yes Has Current Passport                  Airport of Departure: Philadelphia, PA [Philadelphia International Airport], USA - PHL                  Nationality of Passport: United States                  Passport Expiration Date: September, 2028                  Age at Deployment: 50-59                  Deploying with other events?                  List event numbers:</p>
Seagraves, Ms. Sheryl L. (f)	Project Information	Deployment Information
<p>7400 S. Tucson Way                  Centennial, CO 80112                  sheryl.seagraves.contractor@usap.gov                  ph: (720) 568-2150                  fax: N/A                  Inst: Antarctic Support Contract</p>	<p>Project Role: Alternate Participant                  SIP Access: Read/Write                  Excess Baggage                  pieces / total                  pounds / direction                  0 0</p>	<p>Is <b>NOT</b> Deploying                  Airport of Departure:                  Nationality of Passport:                  Passport Expiration Date:                  Age at Deployment:                  Deploying with other events? List event numbers:</p>
Sullivan, Mr. Paul J. (m)	Project Information	Deployment Information
<p>Centennial, CO 80112                  Paul.Sullivan.Contractor@usap.gov                  ph: (303) 790-8606                  fax: N/A                  Inst: Antarctic Support Contract</p>	<p>Project Role: Alternate Participant                  SIP Access: Read/Write                  Excess Baggage                  pieces / total                  pounds / direction                  0 0</p>	<p>Is <b>NOT</b> Deploying                  Airport of Departure:                  Nationality of Passport:                  Passport Expiration Date:                  Age at Deployment:                  Deploying with other events? List event numbers:</p>
TBA 1	Project Information	Deployment Information

<p>Address TBA</p>	<p>Project Role: Project Participant</p> <p>SIP Access: None</p> <p>Excess Baggage</p> <p>pieces / total pounds / direction 0 0</p>	<p>Yes Is Deploying</p> <p>Yes Has Current Passport</p> <p>Airport of Departure:</p> <p>Nationality of Passport: United States</p> <p>Passport Expiration Date:</p> <p>Age at Deployment:</p> <p>Deploying with other events? List event numbers:</p>
<p><b>TBA 2</b></p>	<p><b>Project Information</b></p>	<p><b>Deployment Information</b></p>
<p>Address TBA</p>	<p>Project Role: Project Participant</p> <p>SIP Access: None</p> <p>Excess Baggage</p> <p>pieces / total pounds / direction 0 0</p>	<p>Yes Is Deploying</p> <p>Yes Has Current Passport</p> <p>Airport of Departure:</p> <p>Nationality of Passport: United States</p> <p>Passport Expiration Date:</p> <p>Age at Deployment:</p> <p>Deploying with other events? List event numbers:</p>
<p><b>TBA 3</b></p>	<p><b>Project Information</b></p>	<p><b>Deployment Information</b></p>
<p>Address TBA</p>	<p>Project Role: Project Participant</p> <p>SIP Access: None</p> <p>Excess Baggage</p> <p>pieces / total pounds / direction 0 0</p>	<p>Yes Is Deploying</p> <p>Yes Has Current Passport</p> <p>Airport of Departure:</p> <p>Nationality of Passport: United States</p> <p>Passport Expiration Date:</p>

		Age at Deployment: Deploying with other events? List event numbers:
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TBA 4	Project Information	Deployment Information
Address TBA	Project Role: Project Participant SIP Access: None Excess Baggage pieces / total pounds / direction 0 0	Yes Is Deploying Yes Has Current Passport Airport of Departure: Nationality of Passport: United States Passport Expiration Date: Age at Deployment: Deploying with other events? List event numbers:

TBA 5	Project Information	Deployment Information
Address TBA	Project Role: Project Participant SIP Access: None Excess Baggage pieces / total pounds / direction 0 0	Yes Is Deploying Yes Has Current Passport Airport of Departure: Nationality of Passport: United States Passport Expiration Date: Age at Deployment: Deploying with other events? List event numbers:

TBA 6	Project Information	Deployment Information
<p>Address TBA</p>	<p>Project Role: Project Participant</p> <p>SIP Access: None</p> <p>Excess Baggage</p> <p>pieces / total pounds / direction 0 0</p>	<p>Yes Is Deploying</p> <p>Yes Has Current Passport</p> <p>Airport of Departure:</p> <p>Nationality of Passport: United States</p> <p>Passport Expiration Date:</p> <p>Age at Deployment:</p> <p>Deploying with other events?</p> <p>List event numbers:</p>
<p>Torgilsson, Ase NMI (f)</p> <p>Norra Hanavrå 1357 Visseltofta SE-28395 Sweden ase.tor.4791@gmail.com ph: 046 70 6093051 fax: N/A Inst: (Other)</p>	<p>Project Role: Project Participant</p> <p>SIP Access: None</p> <p>Excess Baggage</p> <p>pieces / total pounds / direction 0 0</p>	<p>Yes Is Deploying</p> <p>Yes Has Current Passport</p> <p>Airport of Departure: Kobenhavn (Copenhagen), [Kastrup], Denmark - CPH</p> <p>Nationality of Passport: Sweden</p> <p>Passport Expiration Date: November, 2023</p> <p>Age at Deployment: 40-49</p> <p>Deploying with other events?</p> <p>List event numbers:</p>
<p>Wisniewski, Mr. Paul Anthony (m)</p>	<p>Project Information</p>	<p>Deployment Information</p>

<p>808 Hummingbird Court                  Sun Prairie, WI 53590                  paw@icecube.wisc.edu                  ph: (608) 334-3078                  fax: N/A                  Inst: University of Wisconsin Madison</p>	<p>Project Role: Project Participant                  SIP Access: None                  Excess Baggage</p> <p>pieces / total                  pounds / direction                  0 0</p>	<p>Yes Is Deploying                  Yes Has Current Passport                  Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN                  Nationality of Passport: United States                  Passport Expiration Date: April, 2029                  Age at Deployment: 60 +                  Deploying with other events?                  List event numbers:</p>
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Zernick, Mr. Michael Anthony (m)	Project Information	Deployment Information
<p>310 Oakmont St                  Oregon, WI 53575                  michael.zernick@icecube.wisc.edu                  ph: (608) 698-2251                  fax: N/A                  Inst: University of Wisconsin Madison (Physics)</p>	<p>Project Role: Project Participant                  SIP Access: None                  Excess Baggage</p> <p>pieces / total                  pounds / direction                  0 0</p>	<p>Yes Is Deploying                  Yes Has Current Passport                  Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN                  Nationality of Passport: United States                  Passport Expiration Date: October, 2029                  Age at Deployment: 60 +                  Deploying with other events?                  List event numbers:</p>

Zhai, Xu NMI (m)	Project Information	Deployment Information
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<p>7221 Iris Bloom Drive                  Madison, WI 53719                  xzhai@wisc.edu                  ph: (608) 381-8994                  fax: N/A                  Inst: University of Wisconsin Madison</p>	<p>Project Role: Project Participant                  SIP Access: None                  Excess Baggage</p> <p>pieces / total                  pounds / direction                  0 0</p>	<p>Yes Is Deploying                  Yes Has Current Passport                  Airport of Departure: Madison, WI [Dane County Regional Airport-Truax Field], USA - MSN                  Nationality of Passport: United States                  Passport Expiration Date: September, 2029                  Age at Deployment: 50-59                  Deploying with other events?                  List event numbers:</p>
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Additional information or comments concerning your participant roster.

Kael, Jim, Terry and Dar have read/write access to the SIP.  
 Added Dennis Duling with read/write access to the SIP.  
 Added Sheryl Seagraves with read/write access to the SIP.  
 Added team members TLB 4/14/2020

### Project Information :: Project Schedule

\* Please enter the estimated date when each member of your project team will **arrive** on the South Pole, and the estimated date when each member will **depart** the South Pole.

Participant	Arrival Date	Departure Date
Birrittella, Barbara	18 Dec 2020	29 Jan 2021
Edwards, Ms. Jeanne	10 Nov 2020	18 Dec 2020
Ejdepalm, Erik	10 Nov 2020	29 Jan 2021
Feyzi, Mr. Farshid	18 Dec 2020	29 Jan 2021
Gibson, Mr. Dar	10 Nov 2020	29 Jan 2021
Kalin, Mr. Jonas	10 Nov 2020	29 Jan 2021
Nesbit, Jacob	10 Nov 2020	18 Dec 2020
Ng, Mr. Christopher	05 Jan 2021	29 Jan 2021

Oxborough, Alexis	10 Nov 2020	29 Jan 2021
Roberts, Mr. Graham	10 Nov 2020	29 Jan 2021
Roth, Mr. James	10 Nov 2020	18 Dec 2020
TBA 6	10 Nov 2020	18 Dec 2020
TBA 1	18 Dec 2020	29 Jan 2021
TBA 2	10 Nov 2020	18 Dec 2020
TBA 3	10 Nov 2020	18 Dec 2020
TBA 4	18 Dec 2020	29 Jan 2021
TBA 5	10 Nov 2020	18 Dec 2020
Torgilsson, Ase	18 Dec 2020	29 Jan 2021
Wisniewski, Mr. Paul	18 Dec 2020	29 Jan 2021
Zernick, Mr. Michael	10 Nov 2020	18 Dec 2020
Zhai, Xu	18 Dec 2020	29 Jan 2021

### Global Dates of Use

Several places throughout the application require you to fill in "Date of Use From" and "Date of Use To". Using the fields below you may specify the default dates that will initially populate each date of use field.

For example, you may encounter many date spans if you select a large number of products in the inventory cart sections. If you would like to **initially** populate these date fields with default values, enter them below. You have the opportunity to change individual dates as they appear throughout the application, but setting default values may save you repetitious data entry if most or all of your products are needed for the same time period. **You can specify either or both default dates of use.** If you choose not to set any default values, all date spans will initially be blank. **Note:** many date spans are marked with a red asterisk, which means they must be filled in with a valid date before your worksheet can be finally submitted.

Please remember to adjust the dates of use for items that you do not require for the entire duration of your default date span!

Default Date Of Use From:

Default Date Of Use To:

Additional information or comments concerning your project schedule.

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## Project Information :: Participant Itinerary



Use this page to view the dates each participant is at South Pole. Colored blocks are dates at South Pole, and gray dates are periods not on the ice.

### Overnight Summary for All Team Participants

Participant	Deployment Dates
Birritella, Barbara	18 Dec 2020 to 29 Jan 2021
Edwards, Ms. Jeanne	10 Nov 2020 to 18 Dec 2020
Ejdepaln, Erik	10 Nov 2020 to 29 Jan 2021
Feyzi, Mr. Farshid	18 Dec 2020 to 29 Jan 2021
Gibson, Mr. Dar	10 Nov 2020 to 29 Jan 2021
Kalin, Mr. Jonas	10 Nov 2020 to 29 Jan 2021
Nesbit, Jacob	10 Nov 2020 to 18 Dec 2020
Ng, Mr. Christopher	05 Jan 2021 to 29 Jan 2021
Oxborough, Alexis	10 Nov 2020 to 29 Jan 2021
Roberts, Mr. Graham	10 Nov 2020 to 29 Jan 2021
Roth, Mr. James	10 Nov 2020 to 18 Dec 2020
TBA 6	10 Nov 2020 to 18 Dec 2020
TBA 1	18 Dec 2020 to 29 Jan 2021
TBA 2	10 Nov 2020 to 18 Dec 2020
TBA 3	10 Nov 2020 to 18 Dec 2020
TBA 4	18 Dec 2020 to 29 Jan 2021
TBA 5	10 Nov 2020 to 18 Dec 2020
Torgilsson, Ase	18 Dec 2020 to 29 Jan 2021
Wisniewski, Mr. Paul	18 Dec 2020 to 29 Jan 2021
Zernick, Mr. Michael	10 Nov 2020 to 18 Dec 2020
Zhai, Xu	18 Dec 2020 to 29 Jan 2021

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## Permits

Individuals and groups traveling to Antarctica are responsible for obtaining any and all required permits. An initial assessment of permit needs should be made by the individual (or group) based on planned itinerary, the nature of interactions with wildlife, materials to be handled and shipped to or from Antarctica, and the need to enter Antarctic Specially Protected Areas. The National Science Foundation (NSF), the National Marine Fisheries Service (NOAA/NMFS), U.S. Department of Agriculture (USDA), U.S. State Department (DOS), New Zealand Environmental Protection Authority (NZ EPA), and the New Zealand Ministry for Primary Industries (MPI) have regulations governing the taking of marine mammals, plants, introduction of non-indigenous species, importation and exportation, transshipment of specimens, genetically modified organisms (GMO), and research vessel clearances for work in foreign exclusive economic zones.

Below is a summary of informational links concerning the various permits. If you have questions about which permits are required, contact your project POC.

### Antarctic Conservation Act (ACA)

For information on the ACA and its regulations, see [www.nsf.gov/od/opp/antarct/aca/aca.jsp](http://www.nsf.gov/od/opp/antarct/aca/aca.jsp) and [www.nsf.gov/od/opp/antarct/aca/nsf01151/aca\\_nsf\\_01\\_151.pdf](http://www.nsf.gov/od/opp/antarct/aca/nsf01151/aca_nsf_01_151.pdf)

Researchers should contact [acapermits@nsf.gov](mailto:acapermits@nsf.gov), and ASC departments should contact [environmental@usap.gov](mailto:environmental@usap.gov).

For maps and management plans for Antarctic Specially Protected Areas (ASPAs), see <https://www.ats.aq/e/protected.html>

### United States Department of Agriculture (USDA)

For information on the USDA and its regulations, see [http://www.aphis.usda.gov/import\\_export/index.shtml](http://www.aphis.usda.gov/import_export/index.shtml)

Apply online at [http://www.aphis.usda.gov/permits/learn\\_epermits.shtml](http://www.aphis.usda.gov/permits/learn_epermits.shtml)

### New Zealand Environmental Protection Authority (NZ EPA)

For questions about obtaining the necessary permit, contact PAE (NZ) Ltd at [gmo@usap.gov](mailto:gmo@usap.gov)

### New Zealand Ministry for Primary Industries (MPI)

For questions, contact PAE (NZ) Ltd at [CHC-MPIPermits@usap.gov](mailto:CHC-MPIPermits@usap.gov)

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## Permits :: Antarctic Conservation Act (ACA)

The Antarctic Conservation Act of 1978 (ACA), Public Law 95-541, conserves and protects the native mammals, birds, and plants of Antarctica and the ecosystems of which they are a part. It is unlawful, unless authorized by permit, to:

- Take native mammals, birds, or plants
- Engage in harmful interference
- Enter Antarctic specially designated areas
- Introduce species to Antarctica
- Import certain Antarctic items into the United States
- [Introduce substances designated as pollutants]
- [Discharge designated pollutants]

**Note:** The items listed in the brackets above, refer to Waste Management Permits. USAP participants are covered under the USAP Master Waste Permit and do not need to apply for a separate waste permit.

For information on the Antarctic Conservation Act and its regulations, see [www.nsf.gov/od/opp/antarct/aca/nsf01151/aca\\_nsf\\_01\\_151.pdf](http://www.nsf.gov/od/opp/antarct/aca/nsf01151/aca_nsf_01_151.pdf). It takes approximately 12 weeks to process an ACA permit. If you have any questions, please contact ACA Permit Office at NSF, [acapermits@nsf.gov](mailto:acapermits@nsf.gov).

For maps and management plans for Antarctic Specially Protected Areas (ASPAs formerly referred to as SPAs and SSSIs), please see <https://www.nsf.gov/geo/opp/antarct/aca/aca.jsp>

Please check each item that applies to your project. This information is required.

Antarctic Conservation Act (ACA)	Yes	No
* Taking native mammals or birds, or parts thereof ( Taking means to kill, injure, capture, handle, or molest a native mammal or bird.)		X
* Harmful interference (take mammals or birds or to remove or damage such quantities of native plants that their local distribution or abundance would be significantly affected)		X
* Entering Antarctic Specially Protected Area (ASPAs formerly SPAs and SSSIs)		X
* Introducing species to Antarctica		X
* Importing certain Antarctic items into the United States		X
* Exporting Antarctic items from the United States		X
* Do you currently have an active ACA Permit? (If you answer yes, you must enter the Permit No. and Expiration date below)		X

Current ACA Permit	
Permit Number	
Expiration Date	

**Note:** If you are working with Antarctic mammals, you must submit a copy of a valid Marine Mammal Protection Act permit to the NSF Permit Office before your Antarctic Conservation Act application can be forwarded for approval.

Additional information or comments concerning your activities governed by the Antarctic Conservation Act.

### Permits :: USDA Import Authorization Permit

The United States Department of Agriculture (USDA) has regulations governing the importation of organisms and samples into the United States. It is the responsibility of the PI to determine if a USDA permit is required. Permits can take up to 16 weeks to process. You will need this permit to bring certain samples into the United States. (Complete V.S. Form 16-3 or 16-7 located at [http://www.aphis.usda.gov/animal\\_health/permits/](http://www.aphis.usda.gov/animal_health/permits/)). See \_\_\_\_\_

[http://www.aphis.usda.gov/permits/learn\\_epermits.shtml](http://www.aphis.usda.gov/permits/learn_epermits.shtml) for more information and to apply online.

Please check each item that applies to your project. This information is required.

USDA Import Authorization Permit	Yes	No
* Animal material of any kind		X
* Plant material of any kind, including seeds		X
* Viruses or cell cultures		X
* Rock Samples		X
* Soil Samples		X
* Sediment Samples		X
* Ice Samples		X
* Seawater Samples		X
* Freshwater Samples		X
* Air Samples		X

Additional information or comments concerning your activities governed by the United States Department of Agriculture.

### Permits :: New Zealand Ministry for Primary Industries (MPI)

The New Zealand Ministry for Primary Industries (MPI) requires permits to transship through or import samples into New Zealand. The agency is VERY diligent in monitoring and scrutinizing all science samples and requires specific permits for each item. Apply for all required permits as early as possible. Please view the help link in the lefthand menu for more details on permit regulations and contact information.

Due to the large volume of permit requests and processing limitations, MPI permits should be in place prior to deployment. On-ice applications will be limited to emergency situations. Please contact PAE NZ Ltd. at [CHC-MPIPermits@usap.gov](mailto:CHC-MPIPermits@usap.gov) with questions regarding MPI procedures and applications.

#### Transshipment of samples through New Zealand - MPI Permit C

Transshipment refers to samples shipped back from McMurdo via air through New Zealand or to samples offloaded from the RV Nathaniel B. Palmer in New Zealand. Samples shipped to the US from McMurdo on the resupply vessel do not require a MPI permit and you can check No for this question. You can expect samples shipped on the resupply vessel from McMurdo to arrive at your US-based institution no later than April 10.

Please check each item that applies to your project. This information is required.

<b>New Zealand Ministry for Primary Industries (MPI) Permit Advisory</b>	<b>Yes</b>	<b>No</b>
* Importing samples into New Zealand from Antarctica?		X
<b>New Zealand Ministry for Primary Industries (MPI) Permit Request</b>	<b>Yes</b>	<b>No</b>
* Transshipping samples from Antarctica through New Zealand?		X

Additional information or comments concerning your activities governed by the New Zealand Ministry for Primary Industries.

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## Permits :: Permit Applications

The following table lists the various permits you may require and the **minimum lead times** required for filing these permits with the appropriate agencies.

It is your responsibility to determine exactly which permits you will require and then obtain them in a timely manner. Your sample shipment will rely on this action.

<b>Permit</b>	<b>Lead Time</b>
Environmental Protection Agency (EPA)	12 weeks

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## Samples

Please answer the following question concerning your sample shipment requirements. An answer is required.

Sample Requirements	Yes	No
* Will you be shipping any scientific samples?		X

---

## Samples :: Sample List

Describe your sampling plan (daily or weekly number of samples) in as much detail as possible.

---

## Cargo

Please answer the following question concerning your cargo requirements. An answer is required.

Cargo Requirements	Yes	No
* Do you have any cargo requirements?	X	

## Cargo :: Cargo List

- List only items to be shipped. Do not list baggage or handcarry items.
- Include all items that you will purchase, including items that will be shipped to Pt. Hueneme directly from the vendor.
- All southbound cargo must be at Port Hueneme, CA (PTH) by the shipping cut-off deadline.
  - ◆ This information is published at <http://www.usap.gov/logistics/>
  - ◆ If meeting this deadline is not possible, contact your ASC POC as soon as possible.
- For oversized items or large volumes of cargo, the preferred mode will be surface.
  - ◆ Sufficient volumes are required to make a surface shipment efficient.
  - ◆ COMSUR cargo within three weeks of its ROS date without enough volume to justify a container will be diverted to COMAIR in order to meet its ROS date.

Event Number	Ordered By	Item Description	Vendor/Origin	Qty	UOM	Date Ordered /Shipped	Date Received	ROS Date	Special Instructions	Shipper Tracking Number	TCN	Station /Vessel	Shipping Direction	Comments
No CTS cargo records found														





## Environmental Requirements

Describe your project's impact on the Antarctic environment. This information is required.

Environmental Impacts	Yes	No	Description (if applicable)
* Perturbation experiments, i.g., re-routing water flow or manipulating the habitat of plants or animals		X	
* Use of explosives		X	
* Drilling or coring of ice rock, or sediment; include description of drilling fluids as appropriate		X	
* Excavation of soil or snow		X	
* Visiting any designated Scientific or Restricted Zones while working within the Antarctic Specially Managed Area (ASMA) No 5 Amundsen-Scott South Pole Station. If yes, please list. See <u>Scientific and Restricted zones within the area.</u>		X	

Describe your project's Hazardous materials use, wastes, releases and containment. This information is required.

### Definitions:

- Deployed Equipment is defined as any instrument temporarily deployed for short periods of a few days to multiple operating seasons in a field environment. This is subdivided into two categories: those that are known or suspected to contain Designated Pollutants (hazardous waste), such as electronic devices, batteries, or compressed gases (e.g. automatic weather stations, GPS, etc) and those composed only of inert components, such as sediment traps, ablation stakes, and GPS monuments.
- A release is any substance, either hazardous or nonhazardous that will be dispersed into the Antarctic Environment (air, water, land or ice) intentionally or unintentionally. Under the Antarctic Conservation Act (ACA) a release is defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, leaching, dumping, burying, or disposal of a substance. Releases do not include any materials retrograded as wastes (fuels, lubricants, human waste).

Hazardous Materials Used in the Field	Yes	No
* Performing any lab work in the field or use of hazardous materials in the field.		X
Hazardous Wastes	Yes	No
* Generating any hazardous wastes in a lab or a field location		X
Deployed Equipment and Scientific Releases	Yes	No
* Excluding the emissions from the combustion of fossil fuels, will the proposed activities result in any release into the Antarctic environment, including irretrievable science equipment or hazardous materials?		X
Human Waste Management	Yes	No
* Will the proposed activities result in any intentional release into the Antarctic environment of wastewater, human waste, urine, grey water, etc?		X

* Are you planning to return any wastewater, human waste, urine, grey water generated in the field to McMurdo Station for disposal?		X
<b>Fuel and Waste Containment</b>	<b>Yes</b>	<b>No</b>
* Use of fuel, including cooking fuel, at any field site		X

Describe fully any other activities, not described above, that may affect the antarctic environment or any future scientific investigations.

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## Science Construction

Please answer the following questions concerning your science construction requirements. All answers are required.

Science Construction Requirements	Yes	No
* Do you require fabrications, construction support, or construction materials?	X	
* Do you require the construction or use of field camp structures?		X
* Do you require any Engineering services (Surveying, Electrical, Drafting)?	X	
* Do you require any Electrical services?	X	
* Do you require the construction of Permanent or Portable Structures?	X	
* Do you require the construction of Special Equipment or Projects?		X
* Do you require Forklift or Crane support?	X	
* Do you require the fabrication of Special Shipping Crates?		X
* Do you require the Modification of an Existing Lab Space?		X
* Do you require the Modification of an Existing Lab Space HVAC system?		X
* Do you require power or signal cables run in lab spaces, or from inside buildings to the exterior?	X	

## Science Construction :: Fabrications

Please provide the details of your fabrication requirements here.

If you simply require construction supplies, but no fabrications, list them here. Provide as much detail as possible, including exact measurements of the materials needed.

Please provide general descriptions, measurements and functions of your required fabrications, then detail the materials needed in the sections below. Our ability to fabricate some items from metal at Pole is limited. Please coordinate with the your POC for availability of materials and construction at the South Pole.

1. Request fabrication of 2 enclosures, one on top of each of our water tanks to protect plumbing manifolds. Each enclosure will measure approx 90"x72"x96"H. Prefer 2x4 framing sheathed with clear polycarbonate sheets to allow light and solar gain with a rolling or sliding barn door type entry because door swing space is not available.

Fabrication - Sheet/Plate/Angle

* Type of Material	Date Needed	Gauge/thickness	Length (In)	Width (In)

Wood	07 Dec 2020	2x4	96.00	0.00
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## Fabrication - Pipe

* Type of Material	Date Needed	Schedule(PVC)	Inside Diameter(In)	Outside Diameter(In)	Length(In)
No data entered for this grid					

Please provide details about all required fittings, sealant, finishes, paint, etc. As there is no Paint Barn at Pole, our ability to apply sealant, paint and finishes is limited. Please coordinate with the your POC for availability of materials and finishes at the South Pole.

---

**Science Construction :: Fabrications :: Diagram**
**Construction Diagrams**

Please upload all drawings and plans here. **Note: the Construction File, Title, and Description fields are only required if you have a diagram to upload.**

No file uploaded.

---

**Science Construction :: Engineering Services**

Identify the type of engineering services here.

* Service	Estimated Days Required
Survey	2

Describe completely any additional engineering requirements.

Surveying:

1. Survey and mark out boundary of entire 2022/23 Upgrade drill operations area.
2. Survey and mark out boundary of 2022/23 Drill Camp Seasonal Equipment Site (SES) within the drill operations area.

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**Science Construction :: Electrical Services**

Identify the type of electrical services here.

* Type of Electrical Service	Function	* Power	* UOM	* Outlet Qty
Volts	480V/3ph for power to Main Hose Reel heating blankets	10	Kilowatts	1
Volts	480V/3ph for power to TOS#1 to heat container for winter over storage	11	Kilowatts	1
Volts	480V/3ph for power to TOS#2 to heat container for winter over storage	11	Kilowatts	1
Volts	480V/3ph for power to DCC to heat container for winter over storage	11	Kilowatts	1

Please provide Amperage details for 208V requirements.

1. Request exterior outlets and power service installed on downwind outbuilding to heat Drill Hose Reel over winter. Requires 10kw of 480V 3phase power. Details and voltage are still being worked out with manufacturer and will be provided after SIP is submitted.
2. Request exterior outlets and power service installed on downwind outbuilding to provide power and heat to TOS#1, TOS#2 and DCC for winter DNF storage. All 3 containers have 480V 3 phase electric service with a peak power load of 10.8kw at 22.5A. More details available upon request.
3. Request power hookup and support to power drill camp from onsite 2x 40kW Onan generators. Onan's dedicated all-season as backup.
4. 80 hours of electrician support throughout season

### Science Construction :: Permanent or Portable Structures

Describe the type of structure, indicating whether it is permanent or portable. Include detailed power requirements in the Electrical Services section.

* Type of Structure	Function	* Heat	L (ft)	W (ft)	H (ft)	Total Weight (lbs)	Power (Kw)
Portable	Fall restraint towers on top of containers	Unheated	0	0	0	200	0

Describe completely any additional structure requirements.

1. Request construction team install fall restraint system. Installation involves mounting 2 towers on 5 different MDSs (MHP 1,2,3,4 &PHS) for a total of 10 installations. The towers mount in the ISO corners of the containers. A steel cable runs between towers allowing personnel to clip lanyard onto while working on top of container. Weight of towers and mounting location on corner of container require manbasket and/or forklift support for safety.
2. Request sewer outhouse out at drill camp location and waste support all season.
3. Request SEW container be returned to IceCube Upgrade to be used as Electrical Shop for duration of project.

## Science Construction :: Forklift and Crane Services

Describe the type of forklift or crane services needed. The maximum for forklifts is 6,000 lbs and 8' high.  
If your requirements are more than this, please select the Crane.

* Forklift/Crane	* Function(s) to Perform	Total Weight of Object to be lifted (lbs)
Crane	Lift Gen1 from SPOT1 Traverse sled and mount on aluminum skis	22000
Crane	Lift Gen 2 from SPOT1 Traverse sled and mount on aluminum skis	22000
Crane	Lift Gen 3 from SPOT1 Traverse sled and mount on aluminum skis	22000
Crane	Lift HPU1 from SPOT1 Traverse sled and mount on ISO2 ski kit	28000
Crane	Lift PDM and mount on aluminum skis	18000

Describe completely any additional requirements for forklift or crane services.

1. Note Gen 1, 2, 3 and HPU 1 will arrive at South Pole around Thanksgiving on SPOT1. All 4 will need to be lifted and mounted on skis at South Pole ASAP so that SPOT1 can depart for return to McMurdo. Skis for all 4 containers will also arrive on SPOT1.
2. Note PDM is already at South Pole, skis will arrive on SPOT1.
3. Request use of the 'Water Buffalo' (insulated water tank on skis) for duration of the season Nov. 16 2020 - Jan. 30 2021.
4. Request 2x delivery of 2000gal water for heater and pump testing during season.
5. Request 4x 55gal drums of Propylene Glycol for Ice Cube Generator cooling loop.
3. Request Equipment (Dozer, Challenger etc) to flatten, smooth, groom and pack entire 22/23 Drill Operations area including hole locations and Seasonal Equipment Site (SES).
4. Request Equipment (Dozer, Challenger etc) to groom winter storage site for 20/21 Drill Camp set-up prior to arrival of Ice Cube Upgrade team.
5. Request Equipment Support to move all Ice Cube MDSs into Drill configuration at 20/21 location when Ice Cube Upgrade team arrives at South Pole (Mid-November).
6. Request Manbasket or Forklift Support to install Fall Restraint System on 5 MDSs. See: 'Permanent or Portable Structures' section.
7. Request 2 days Manbasket Support to finish wire connections of Tower Hoist on Drill Tower in first half of December.
8. Request assistance with waste disposal of approx 200gal propylene glycol.
9. Request regular fuel delivery to seasonal operations location at winter storage site. Estimate 1500gal AN-8 for season.
10. Request outhouse and waste management at winter storage site for duration of season.
11. Request at least 2 portable fuel tanks to run furnaces locally.
12. Request use of 2x 40kw Onan Generators at work site for entire season.

## Science Construction :: Power or Signal Cables

\* Please provide details for power and signal cable requirements.

1. Request exterior outlets and power service installed on downwind outbuilding to heat Drill Hose Reel over winter. Requires 10kw of AC single phase power. Details and voltage are still being worked out with manufacturer and will be provided after SIP is submitted.
  2. Request exterior outlets and power service installed on downwind outbuilding to provide power and heat to the two TOS structures and DCC for winter DNF storage. All 3 containers have 480V 3 phase electric service with a peak power load of 10.8kw at 22.5A. More details available upon request.
  3. Request power hookup and support to power drill camp from onsite 2x 40kW Onan generators. Onan's dedicated all-season as backup. This may require 1-2 power cables, with mating connectors.
-

## Computers

General information about the USAP ITC computer requirements, service and infrastructure can also be found here: <http://www.usap.gov/usapgov/technology/index.cfm?m=4>

Changes to guidance happen frequently, so please check the link regularly for new direction.

The person responsible for implementing and maintaining the deployed systems should fill out this section. Inaccurate or incomplete information in this section may result in delays in processing your SIP.

Ensure your project team is familiar with the most current Information Security Awareness materials. Information Security Awareness training is a Federal requirement and must be completed prior to obtaining access to the USAP network.

All systems connected to the USAP infrastructure are required to meet the most current USAP Computer Screening Requirements materials. Please ensure that everyone on your team is familiar with these requirements as they apply to both project support AND personal systems. All systems unable to meet these requirements will require special approval before being allowed to connect to the USAP infrastructure, either directly or indirectly.

Please answer the following questions concerning your computer requirements. All answers are required.

<b>Computer Support</b>	<b>Yes</b>	<b>No</b>
* Are you bringing your own laptop or desktop computers or data systems not supplied by the USAP or do you already have computers on the USAP network? If yes, require Self-Supplied Computer Hardware and Information Security.	X	
* Are you bringing your own software to install on USAP computer systems?		X
* Are you connecting your computer(s) to onsite equipment, instruments, or networks?		X
* Do you require computer or software support from onsite staff?	X	
<b>Internet Connectivity and Remote Access</b>	<b>Yes</b>	<b>No</b>
* Does your home institution require the use of Encrypted Tunnels, such as VPN, SSH, SSL, to connect to an external network or to connect into the USAP network from an external network?		X
* Do you require off-site access to your deployed grant equipment for any reason, such as data transfer or system control, or does your deployed grant equipment use non-standard ports for inbound or outbound connectivity?		X
<b>E-Mail and Data Transmission</b>	<b>Yes</b>	<b>No</b>
* Do you have e-mail requirements?	X	
* Do you need SFTP access for data transport?		X
<b>Outreach Efforts</b>	<b>Yes</b>	<b>No</b>
* Do you plan on doing any educational outreach during your event?		X
<b>Computer Peripherals</b>	<b>Yes</b>	<b>No</b>
* Do you require any external media for data storage?		X



## Computers :: Contacts

Please provide information for at least one point of contact in the event of questions regarding computer services for your project. This individual(s) may be contacted to address a computer incident involving your computer equipment on the Ice, to address the design of your network or network requirements for connecting to your home institution, and also for the stateside contact person for VTCs. Please provide in the Contact Role field if the contact is on-Ice support, home institution support, or another stateside contact.

* Contact Name	Contact Title	* Contact Role	* Institution Name	* Contact Phone	Contact E-Mail
Ralf Auer	Ice Cube Winterover Manager	Deployed Support	UW - Madison	608-890-1123	ralf.auer@icecube.wisc.edu

Additional information or comments concerning your point of contact.

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## Computers :: Information Security

The USAP Information Security Program assures USAP policies and the USAP network comply with federal standards, educates all USAP participants on the importance of information security, assures that all participants are granted appropriate access to fulfill their responsibilities, and assures that security measures are in place to protect and support the USAP mission. If you have questions about USAP information security requirements please email [Den-ITC-Security@usap.gov](mailto:Den-ITC-Security@usap.gov).

Computers connected to the USAP network must continuously maintain compliance with USAP computer requirements. A system that falls out of compliance, such as falling behind in anti-virus definitions, patches, or vulnerability remediation, may be disconnected without notice if the NSF determines there is an unacceptable level of risk or threat to the USAP environment.

### Operating System and Software Patches

Devices running an operating system (OS) must be running at a version currently supported by the vendor, and be updated with the most current patch level of the OS, including the latest security patches. Applications running on the system must also be patched when patches are released by the software vendor.

### Antivirus

All devices must have antivirus software running at the current version and be configured for auto-updates. Computers must be virus free to connect to the USAP network and maintain the current DAT version as updates are available.

### Prohibited Protocols

Telnet and FTP are prohibited, as they present a high risk to the USAP network. These protocols must be replaced with secure versions such as SSH and SFTP.

**Client and Server Software**

Permitted for use are client software used for the purposes of email and web browsing, and other client software, such as SSH and SFTP.

Software that is not permitted for use on the USAP network includes but is not limited to:

- Peer-to-peer (P2P) software, e.g., BitTorrent, KaZaA, Gnutella, Freenet
- Email server software that provides SMTP/POP port services. Some examples include: Exchange, Eudora, send mail
- Web server software that provides HTTP/HTTPS/FTP services. Some examples include: IIS, Apache, Lighttpd
- Network management servers, such as DNS and SNMP
- Network or port scanning software, such as Nessus
- Network penetration tools such as Metasploit, BackTrack, Wireshark, etc.
- Unauthorized wireless access points and other network devices (firewalls, routers, etc.)

Software requiring NSF approval for use on the USAP network for official business purposes (such as educational outreach) includes Skype and other network bandwidth intensive applications such as video and audio streaming software.

**Vulnerability Scanning**

All equipment on the USAP network is continually scanned for vulnerabilities. The PI or computer system point of contact will be notified if a vulnerability is detected. All critical and high vulnerabilities must be remediated within 30 days. Any non-compliant systems will be escalated to the NSF for possible disconnection from the network.

	Yes	No
<b>* I acknowledge that I have read and understand the USAP information system requirements provided on this page for connecting equipment to the USAP network.</b>	X	



**Computers :: General Computer Support**

Please define your general computer support requirements by clicking the above section links or the Continue button.



**Computers :: General Computer Support :: Self-Supplied Computer Hardware**

Many grantees find that bringing their own computers is the most convenient way to meet their computing needs. Some monitors are available, precluding the need to ship your monitor with your computer.

Station LAN Notes:

All LAN connections are standard Ethernet. Your computer must have a LAN (network) card to access the network. This will provide you with e-mail, data transfer and intranet connectivity, as well as access to networked resources such as printers.

You have indicated your plan to bring your own computer(s) to Antarctica. Please describe these computer(s).

* Type of Computer	* Qty	* Operating System/Version/Patch	LAN Connection(s) Required	Connecting to Lab Equipment	* Will this equipment remain on station?	* Will this equipment be replaced this year?
Windows	16	Windows, Linux, Mac			No	No
Macintosh	5	MacOS			No	No

Application of Patches and Updates	Yes	No
* Can all of the systems used to support your project be updated with security patches and updates within a few weeks of release by the vendor?	X	

NOTE: If you do not intend to apply security updates and patches on a regular basis your system may be at risk to damage from viruses and other exploits. Additionally, all vulnerabilities detected during vulnerability scanning require remediation within 30 days of notification. Any system that is non-compliant will be escalated to the NSF for possible disconnection from the network.

If you answered No to the above question, please explain:

Describe instruments or equipment you are connecting to your computer:

Describe any additional connectivity, application or hardware requirements you have:

Project computer ops largely considered to fall under Ice Cube A-333 MO

### Computers :: General Computer Support :: Computer Technician Support

Indicate the type of support your computer systems and software will require from on-site technical staff.

Type of Support	# of Hours	Frequency	Explanation
Network Configuration	4	Month	Set up computers w usap.gov email, printers, network access etc

Describe any additional technician support you may need.

### Computers :: Internet Connectivity and Remote Access :: Encrypted Tunnels (Including VPN)

#### VPN Details

If your home institution requires the use of Virtual Private Networking (VPN) software to connect to its network, please identify the name and version of the VPN software you will use to connect to this network. Providing this software is the responsibility of the grantee.

* Destination IP	* VPN Software Name and Version	* Protocol (IPsec, UDP, TCP, etc...)	* Port Used for Each Protocol	* Start Date	* Expiration Date	* Purpose/Justification
No data entered for this grid						

#### Other Encrypted Tunnels

If you require any other sort of Encrypted Tunnel such as SSH, SSL, etc, please provide the following:

* Destination IP	* Source IP	* Protocol (IPsec, UDP, TCP, etc...)	* Port	* Start Date	* Expiration Date	* Purpose/Justification
No data entered for this grid						

#### Contact Information

Please include the name and email address of the best person to contact regarding encrypted tunnels questions.

* First and Last Name of Contact	* Email Address
No data entered for this grid	

## Computers :: E-Mail and Data Transmission

Please define your e-mail and data transmission requirements by clicking the above section links or the Continue button.

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## Computers :: E-Mail and Data Transmission :: LAN and E-Mail Accounts

A LAN and E-Mail account is created on the day of your arrival for all grantees deploying to South Pole. Instructions on how to log in to the station network are included with your arrival documentation. Additionally, some grantees choose to send/receive E-Mail from their home institutions via POP or HTTP. If your group needs an E-Mail distribution list created, or any other assistance, please contact the Help Desk.

**IMPORTANT:** Every team member must complete USAP Information Security Awareness Training before they will be issued a USAP network account and/or a usap.gov email account. Confirmation of training completion is a federal requirement for accessing the USAP network. For instructions on completing USAP Information Security Awareness please reference:

[http://www.usap.gov/USAPgov/travelAndDeployment/documents/9g\\_20IS-ATT-0001\\_20g\\_20IT\\_20page\\_202.pdf](http://www.usap.gov/USAPgov/travelAndDeployment/documents/9g_20IS-ATT-0001_20g_20IT_20page_202.pdf)

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The standard storage quota is 100Mb for e-mails and 4Gb for personal storage. If you need additional storage space or have special LAN account or e-mail requirements, please enter them here. All storage will be deleted when you leave the station.

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## Computers :: E-Mail and Data Transmission :: Data Transfer Requirements

**IMPORTANT:** The FTP protocol is no longer allowed for incoming or outgoing traffic on the USAP network. All file transfers must use SFTP or an equivalent secure protocol.

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## Computers :: Outreach Efforts

Low-bandwidth video teleconference (VTC) sessions are supportable from the station as long as there is compatible software and a technical specialist at the remote end.

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## Computers :: Computer Peripherals

Please define your computer peripheral requirements by clicking the above section links or the Continue button.



## Communications

Please indicate your communications requirements. All answers are required.

Communications Requirements	Yes	No
* Will your project require the installation of communications equipment (voice, data, or video)?	X	
* Do you expect your project to require extensive data transmission or voice communications?		X
* Does your team have voice communication requirements using Iridium satellite phone, HF or VHF field radios?	X	
* Will your team be bringing equipment that operates at radio frequencies, or using RF equipment not issued through ASC?		X
* Does your project require antenna and/or tower support for voice or data transmission by means other than what is provided by the existing infrastructure?	X	
* Does your project require data connectivity in the field?		X
* Do you have other communications requirements?		X
* Do you have Iridium SIM card-only requirements?		X
* Do you or are any of your team members plan on bringing a personal satellite communication device (e.g. InReach, SPOT, etc.)?		X

## Communications :: Field Radios

You are required to maintain two separate forms of communications when travelling outside of McMurdo Station. This includes navigating off established roadways, operating outside of an established camp, or travel by helicopter to a remote site.

VHF radios are considered the primary form of communications within McMurdo Station and nearby locations. Ask your ASC POC for clarification on VHF coverage and procedures if you are uncertain of availability and operations.

Provide details on how many participants in your project are deploying, and will operate in the field that requires the use of Field Radio equipment and how long will they require its use.

Handheld Radios: Line-of-Sight

* Type	* Qty
LRM Handheld Radio	13

Please describe any additional requirements for radio communications equipment (e.g., headsets, lapel microphones, external speakers, etc.)

Also request:

1. 13 individual chargers.
2. One bank charger for MECC.
3. Four lapel mics.

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## Communications :: Terrestrial and Satellite Frequency Registration

Attach to your SIP one or more Data Sheets or equipment Specification Sheets that include RF characteristics. Upload the documents as a Project File after clicking this link

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## Communications :: Antenna and Tower Requirements

Contact your POC if you are unsure what the existing infrastructure provides. Provide the following information; also submit a detailed diagram via e-mail to sipmail@usap.gov or fax to (303) 792-9006.

Proposed Tower Height (ft)	* Equipment to be Placed on Tower	Weight of Equipment (lbs)
0	Antenna mounted on MECC to receive communications signal from station	0

Describe completely any additional antenna and tower requirements.

May require antenna and installed equipment for receiveing communications signal at MECC at seasonal work site (winter berms) for 20/21 season. Details TBD.

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## Communications :: Personal Satellite Communication Devices

Please read the NSF safety alert memo.

Please inform the MacOps Supervisor and the Field Support Supervisor upon arrival at McMurdo Station, or the Marine Projects Coordinator (MPC) if on a vessel, or the station manager at Pole or Palmer.



If you would be willing to share contact information, please enter it in the box below. This will enable station and vessel communications personnel to use your device as a back-up form of communication.

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## Laboratory

Please indicate your laboratory, office space, and equipment requirements. All questions are required.

Laboratory, Office Space and Equipment Requirements	Yes	No
* Do you require observatory space at South Pole Station?		X
* Do you require instrument mounting space at South Pole Station?		X
* Do you have requirements for laboratory instruments, or small science equipment?		X
* Will your project require the use of radioisotopes?		X
* Will your project require the use of liquid cryogenics or ice?		X
* Do you have power requirements for the laboratory?		X
* Will your project require the use of controlled substances?		X
* Will your project require the use of compressed gases?		X
* Do you require staging space in the Cryogen Facility?		X
* Do you require large quantities of balloon-grade helium from the half rack?		X

## Scientific Services

Please indicate your scientific services support requirements. All answers are required.

### EXTERNAL AGENCY SUPPORT\*

\*External Agency Support is **NOT** provided by the Antarctic Support Contract (ASC). This information is required for logistics planning purposes only. Investigators **must** contact each agency to coordinate support and to ensure supportability and equipment availability. Contact information for each agency will automatically be provided via email upon request for services.

Scientific Services Requirements	Yes	No
* Will your project require spatial analysis, remote sensing, or GIS support from the Polar Geospatial Center (PGC)?		X
* Will your project require ice core drilling support from the Ice Drilling Program (IDP)?		X
* Will your project require support from the National Ice Core Laboratory (NSF-ICF)?		X
* Will your project require GPS, LiDAR, UAS, or power systems support from UNAVCO?		X
* Do you have requirements for seismological support that involves PASSCAL?		X

### INTERNAL CONTRACTOR SUPPORT\*

\*Internal Contractor Support services are currently provided by the Antarctic Support Contract (ASC).

Scientific Services Requirements	Yes	No
* Will your project require research associate support?		X
* Will your project require meteorological services?		X

Please describe your need for any additional scientific services.

### Scientific Services :: UNAVCO Support

Do you require data collection from Small Uncrewed Aerial Systems (sUAS)? UNAVCO has a number of small UAS		
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platforms and sensors as well as certified pilots.		
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## Air Support

Please indicate your air support requirements. All questions are required.

Air Support Requirements	Yes	No
* Do you require support from LC-130 (heavy-lift airplane) or Twin Otter (small airplane) aircraft between South Pole and remote field camps?		X

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**Vehicle Support**

Please indicate your vehicle requirements. All answers are required.

Vehicle Requirements	Yes	No
* Will your project require the use of any vehicles?	X	
* Will your project require the use of any snowmobiles?	X	

**Vehicle Support :: Cart Contents**

You have requested the following inventory item(s):

**Vehicle Requirements**

Tracked Vehicle					
Product Name	Qty	Date of Use From	Date of Use To	Reason For Use/Additional Information	Dedicated or Pooled
Snowmobile	2	16 Nov 2020	31 Jan 2021	Personnel and supply transportation to EHWD seasonal work site and ICL	Dedicated

Additional Notes on your Vehicle Support inventory requirements

1. Need snowmobile training/refresher for all A-334-S participants.

**Vehicle Support :: Vehicle Requirements**

Please select your vehicle requirements from the following list.

Describe completely any additional vehicle requirements.

1. Request the use of a truck or van for personnel and light equipment movement to winter storage site Nov 20 2020 - Jan 30 2021.
2. Request use of 287/skidsteer beginning Nov 20 2020 until Ice Cube 287B arrives on station.
3. Request use of 953 Loader, specifically Felicia (previously operated by Ice Cube during Gen1) Nov 20 2020 - Jan 30 2021
4. Request Ice Cube 287B winterization by McMurdo Heavy Equipment Shop during 2020 winter season. Request also submitted in A-334-M SIP.
5. Request repair and preventative maintenance support of Ice Cube 287B for 20/21 season.

6. Request delivery of 10 gal of 76 Triton 75-90w Syn Lube EP oil from McMurdo. Request also submitted in A-334-M SIP.

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## **Vehicle Support :: Snowmobile Support**

\* Please provide details for your snowmobile requirements.

1. Note Ice Cube 334-S currently has 2 of its own snowmobiles on station and will receive 2 additional this season in cargo.
  2. Request snowmobile mechanic support for Ice Cube snowmobiles.
  3. Request 55gal drum (or similar size) of 2 stroke oil delivery to South Pole from McMurdo for snowmobiles that are currently setup for oil, not premix. This request also submitted in A-334-M SIP.
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## Field Camp Resources

Please indicate your remote field camp support requirements. All answers are required.

Field Camp Resources Requirements	Yes	No
* Will your project require any Field Camp support that is remote from South Pole Station?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
* Will your project require any Mechanical Equipment support?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
* Will your project require any Generator Equipment support?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
* Will your project require any Renewable Energy Equipment support?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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## UAS/UAV

In addition to the CONOPS document (CONOPS requests due to the NSF by July 31st), each group operating a UAS/UAV will require a Record of Environmental Review (ROER), prepared by Environmental for review and approval by NSF Environmental, which will require supplemental information provided by the PI.

Note: The use of any Unmanned Aerial Vehicles (UAV s), drone, or remotely piloted aircraft in Antarctica by U.S. Antarctic Program (USAP) personnel is prohibited without specific authorization from the National Science Foundation (NSF). Please refer to the programmatic notice distributed by NSF on March 8, 2018 for more information. [NSF UAV Programmatic Notice](#)

Unmanned Aerial Vehicles (UAV) or Unmanned Aerial Systems (UAS)	Yes	No
Does your research require the deployment of an Unmanned Aerial Vehicle (UAV) or Unmanned Aerial System (UAS) of any kind?		X
Will you be requesting the use of a small Uncrewed Aerial System (sUAS) from UNAVCO?		X

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## UAS/UAV :: UNAVCO sUAS

Please navigate to the Services tab and then to the UNAVCO section to request the use of small Uncrewed Aerial Systems (sUAS). If you are ONLY using a UNAVCO sUAS, you do not have to submit a ConOps.

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**Media/Outreach**

Media	Yes	No
* Do you have individuals who are working as embedded media with your team or someone whose primary responsibility will be filming/photographing or other duties for publicity/outreach?		X

**Media/Outreach :: Embedded Media**

The information provided below will enable ASC to work with your embedded media/outreach person in advance of deployment to increase awareness of media needs and better assure a successful outcome.

NOTE: If your outreach plan includes using the Internet to transfer files to your home institution, be sure to provide this detail on the Computers tab of this POLAR ICE worksheet.

Briefly describe the name of the media outlet(s), what the format (video, print, etc.) will be.

Note: Internet connectivity in Antarctica is not as robust as it is elsewhere in the world. For example, a media plan that has video files hand-carried off the continent may be more successful than a plan that requires files to be uploaded via the Internet to be transferred off-continent. Please remember to enter Internet requirements under the Computers tab on the Outreach Efforts page.

**Project Files:**

The following requirement documents have been uploaded and should be included with the Fastlane submission.