

Please review all of the following information, including the gear allocations and field team members, to ensure accuracy. This plan is an agreement between VPR and your group, documenting the logistics support you will receive.

• Project Information •

| | |
|---------------------------------------------------|----------------------------------------------------|
| Principal Investigator / Field Coordinator | C.R. Booth / James Ehramjian |
| Institute | Biospherical Instruments Inc. (BSI) |
| Project Title / Grant # | NSF Office of Polar Programs UV Monitoring Network |
| NSF Program and Manager | NSF/OPP, Dr. Polly Penhale |
| VPR Project Manager | Robin Abbott / Mark Begnaud |

• Logistics Summary •

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| <p>In 2005, BSI engineers will visit Summit Station to: characterize/calibrate, partially dismantle, reinstall, re-characterize/re-calibrate their scanning spectroradiometer system that is a part of the NSF Polar Programs UV Spectroradiometer Network. This needs to be done to obtain end/start-of-season system calibration and to address relocation of the Greenhouse (where the system is housed) back on the surface of the snow. This winter's snow accumulation has been extreme, and buried most of the buildings at Summit. VPR will assist BSI with transportation to/from Summit (via Scotia, NY), and the partial dismantling and re-installation of the UV monitoring instrument at Summit Camp, as well as with science technician support for year-round operation (approximately 5 hours/week). Thereafter, BSI engineers will perform annual visits to Summit.</p> <p>BSI engineers will visit Barrow, AK to perform annual site visits to the BSI's UV instrument at NARL. The objectives of these visits are to perform system calibrations, service, and engineering upgrades to the system. BASC assists BSI with a co-location laboratory (at UIC-NARL) infrastructure matters – principally in the areas of IT support, communications, and cargo logistics.</p> |
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For the complete VPR online project record for this grant, including science objectives, go to: http://www.vecopolar.com/arlss_reports/arlss_projectsdetail.asp?cbPropNum=BSI

• Outstanding Issues •

| Issue | Responsibility | Date Completed |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|
| Confirm dates for second deployment | Ehramjian/VPR | |
| Request transfer of Antarctic PQ to Arctic via Gwen Adams at NSF (gadams@nsf.gov) | Ehramjian / White | |
| Review support plan for accuracy and distribute to all field team members | Ehramjian | |
| Obtain all necessary permits for fieldwork | Ehramjian | |
| Visit all hyperlinks and review all documents referred to in the support plan | Field Team Members | |
| Work with the GEOSummit Science Coordination Office (SCO) mailto:sco@geosummit.org regarding on-site science issues as they arise | Ehramjian | |
| Please note this important information for your field team: Bring 2 different forms of picture ID. Passports are now mandatory for entry into Greenland. Be sure to pack them! | Field Team Members | 04/01/05 |
| Complete Critical Success Factors | Ehramjian | 4/20/05 |

• Allocations & Services •

Allocations from Inventory

| Qty./Unit | Item |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 ea | Arctic Oven tent 8'x'8' for each team member (Qty. 2) |
| 2 ea | Thermarest and mattress pads for sleeping in the tents that are set up on insulation board over the snow. |
| lot | Warm/Dry Storage Area: During the period when the Greenhouse is being re-located (the spectroradiometer system is offline), warm and dry storage will be necessary for the system, peripherals, and visit equipment/gear. Much of the material is "stackable", however an estimate 8' x 8' x 7' tall (2.6 m x 2.6 m X 2.3 m H) storage area will be needed. All items to be stored are DNF, Keep Dry, Fragile, and are Electronics. |
| 2 ea | Wireless PC access cards issued to each person in the field team |

• Location Information •

Please visit <http://www.vecopolar.com> and navigate to the Greenland menu for en route and location-specific Greenland information. Prior to deployment, your entire field team should be familiar with the content of the *Greenland Guide* and, if traveling to Summit, with the guidelines provided in the *Summit Users' Guide*. Both are available electronically via our web site's Greenland menu.

This season at Summit, VPR is undertaking a significant construction effort, upgrading the Station's power distribution system and lifting all Summit structures to the snow's surface. For a detailed description of the planned building uplift project, go to <http://www.vecopolar.com> and navigate to Greenland > Science Project Plans.

• Cargo and Customs •

All cargo required for your project should arrive in Scotia, NY no later than 2 weeks prior to the desired northbound Air National Guard (ANG) flight, must be entered into our online Cargo Tracking System, and must be properly registered with customs.

- For the most current ANG flight schedule got to <http://www.vecopolar.com> and navigate to Greenland > Calendars/Schedules.
- If you are a new user requiring access to the Cargo Tracking System, contact Robin Abbott (robin@polarfield.com).
- For Customs requirements refer to the *Greenland Guide*, available at <http://www.vecopolar.com> under Greenland.

The following is our current understanding of your overall cargo requirements: (please list)

Cargo List

| Items | Weight/Cube |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| 9 Cases (Lewis, gray with red lids) for site visit test equipment, calibration standards, spares/consumables, tools, and cold-weather gear. All are DNF, Keep Dry, Fragile, and Electronic. | NTE 600 Lbs. Total (9) 24"L x 21"W x 14"H |

• Support Schedule •

| Date | Location | Activity |
|----------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Visit 1 | Summit | The following is the proposed plan for the first visit in 2005, for the purpose of the spectroradiometer system characterization, and removal from the "Greenhouse" to warm/dry storage at Summit |
| 15 May | Scotia | Team members arrive in NY (Ehramjian,White) |
| 16 May | Kangerlussuaq | Arrive in Greenland (Ehramjian,White) |

| | | |
|----------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17 May | Summit | Team members arrive at Summit (Ehramjian, White) |
| 20 May | Summit | Team members depart Summit (Ehramjian, White) |
| 22 May | Kangerlussuaq > Scotia | Depart Greenland (Ehramjian, White) |
| Visit 2 | Destination: Summit | <i>Tentative schedules below for your second deployment to reassemble the instrument.</i> At this time all scheduling is TBD . The following are two possible scenarios for the second visit in 2005, for the purpose of the spectroradiometer system re-install/re-characterization. |
| 12 July | Scotia | Team members arrive back in NY (Ehramjian, White) |
| 13 July | Kangerlussuaq | Arrive in Greenland (Ehramjian, White) |
| 14 July | Summit | Team members arrive at Summit to reinstall instrument and train Science Techs. |
| 28 July | Kangerlussuaq | Depart Summit |
| 30 July | Kangerlussuaq > Scotia | Arrive back in the USA |

• Field Team Information •

| Name | Location | Date In | Date Out | Email |
|------------------|---------------|-----------|------------|----------------------------------------------------------------------|
| Ehramjian, James | Kangerlussuaq | 5/16/2005 | 5/ 22/2005 | jime@biospherical.com |
| Ehramjian, James | Summit | 5/17/2005 | 5/20/2005 | |
| Ehramjian, James | Kangerlussuaq | 7/13/05? | 7/30/05? | |
| Ehramjian, James | Summit | 7/14/05? | 7/28/05? | |
| White, Seth | Kangerlussuaq | 5/16/2005 | 5/ 22/2005 | swhite@biospherical.com |
| White, Seth | Summit | 5/17/2005 | 5/20/2005 | |
| White, Seth | Kangerlussuaq | TBD | TBD | |
| White, Seth | Summit | TBD | TBD | |

• Project Contact Information •

Research Team

| Role | Name | Email | Phone / Fax |
|-------------------------------------|---------------------|------------------------------------------------------------------|---------------------------|
| Project Manager & Field Coordinator | Mr. James Ehramjian | jime@biospherical.com | 619-686-1888/619-686-1887 |

VPR Team Members

| Contact for | Name | Email | Primary Phone(s) |
|-----------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Greenland operations | Robin Abbott | robin@polarfield.com | Denver: 303.748.8507 Greenland: 011.299.524218 |
| Greenland operations | Mark Begnaud | mark@polarfield.com | Denver: 720.320.6160 Greenland: 011.299.524281 |
| Denver operations | Jill Ferris | jill@polarfield.com | Denver: 720.320.6155 |
| Scotia Operations & Customs | Earl Vaughn | earl.vaughn@nyscot.ang.af.mil vprscotia@direcway.com | Scotia: 518.331.3103 |

VPR Offices

| Denver | Kangerlussuaq | Scotia | Summit |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| VECO Polar Resources 8392 S. Continental Divide Rd. #104 Littleton, CO 80127-4268 Tel: 303.984.1450/1439 Fax: 303.984.1445 | VECO Polar Resources Attn: Name of Employee/Researcher Postboks 1015 DK-3910 Kangerlussuaq, Greenland Tel: 011.299.841598 Fax: 011.299.841599 | Earl Vaughn C/O 109 th Aerial Port Bldg. 20 Stratton Air Base Scotia, NY 12302-9752 Fax: 518.884.2904 | VECO Polar Resources Attn: Name of Employee/Researcher Postboks 1015 DK-3910 Tel: 321.953.9650 Fax: 321.953.9651 |

Other

| Organization | Internet | Phone |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------|
| Summit Science Coordination Office | http://www.geosummit.org sco@geosummit.org | N/A |

- Safety, Environment, Health, and Permitting •

Permits

Please refer to VPR's *Greenland Guide*, available at <http://www.vecopolar.com> under Greenland, for information about permits required to conduct fieldwork in Greenland.

- Critical Success Factors •

Please list the factors that are most important for the success of your science. We track these factors in order to measure the success of VPR's support. Examples might be the availability of the helicopter or camp gear.

| Factors |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The principal factor for us is data yield – not just how much data we obtain, but how much of it is of research quality. We determine this statistically – following annual final-data QA/QC - by taking the ratio of “useable” solar data scans obtained, to the maximum possible (a finite number). Many factors play a role in our success from system “up” time, to how systematically the Science Technicians perform their tasks. |
| Manpower and logistics are also a key factor: whether or not objectives/visits are completed in timely manner. This is inclusive of VPR support personnel; e.g. did personnel and cargo arrive/depart on-station as-planned; did the Science Technician perform duties and respond to issues in a timely manner; did VPR IT Support/Power/Carpentry/Electrical respond to repair issues in manner that didn't result in either data loss and/or hardware casualty. |

- Government Performance and Reporting Act of 1993 (GPRA) •

NSF/OPP requires your help in complying with the Government Performance and Reporting Act of 1993 (GPRA). One measure of VPR's performance is a "facility-performance metric" which counts the number of productive days your project has in the field while relying on VPR facilities or support. Please keep track of any “lost days” and report these to us at the end of the season.