

Appendix E

National Science Foundation Policy on Field Safety in Antarctica

United States Antarctic Program (USAP) scientific and operational teams which are deployed to sites remote from USAP main stations shall conduct their activities in a safe manner. The field party leader shall be responsible for the conduct of all team members in the field, and shall ensure that each member of the team is familiar with the risks involved and proficient in dealing with them.

Background

The USAP has long recognized that operating a scientific research enterprise in Antarctica cannot be risk-free, but rather the activities must be conducted within an acceptable level of risk. Historically, the National Science Foundation's Office of Polar Programs (NSF/OPP) has focused on providing sufficient equipment and logistical support to field parties in remote areas, and has relied on the Principal Investigator (PI) in science field parties and the team supervisor/officer in operations/support field parties to define the levels of acceptable risks for remote field party operations.

OPP will continue to improve field party support logistics and will review operational plans of field party

leaders so that both the team leader and OPP are satisfied that significant field safety concerns are appropriately addressed.

Currently, the USAP civilian support contractor provides one-to-three day field safety training and has developed a field manual for guiding field-party operations in Antarctica. These training courses are “shake-down” excursions to familiarize participants with the issued equipment and typical procedures used in the field. They are not intended to develop expert skills in inexperienced field team members. For science field parties, the USAP recommends that PIs select suitable field safety experts for their specific teams when the potential risks to those teams is significant (e.g., deep field deployments, traversing crevasses areas or mountainous terrain). The support contractor also can provide field safety experts to scientific field parties for short periods, when requested, and maintains a list of field safety experts experienced in Antarctic field deployments.

In many cases, deployments to field sites remote from permanent stations do not entail significant risk (e.g., “established” seasonal camps in the Dry Valleys) or the risks are not associated with actual field deployment (e.g., sea ice diving camps), and specific field safety experts would not be necessary. It is strongly recommended that field party members have basic first-aid training, and at least one member have more advanced life support skills (e.g., paramedic, emergency medical technician) if the remote field deployment warrants.

Policy Implementation

In the initial proposal, the PI should determine the safety requirements associated with remote field deployment and include those needs in the proposal's supporting information and budget submission. If the PI chooses to include a field safety expert with experience in polar or remote mountainous regions on the field team, that individual should be included in the staffing submission. The PI can obtain names of candidates with appropriate field safety experience from other investigators or from the USAP support contractor. If a field safety expert is requested from the civilian contractor within the proposal/grant operational support request, it will be evaluated along with other logistics support and will be provided, resources permitting.

If warranted, the USAP may assign an independent field safety expert to teams that are unprepared to address field related safety concerns, or delay deployment until such support staff is available. For construction field parties, the Field Safety and Training Program (FSTP) staff will review field deployment plans and establish field safety requirements for the field party.

NSF/OPP recognizes that the field safety program should continue to be flexible. The hiring of a field safety expert may make little sense for some science groups. Other field parties may require specific skills for only a short time, and will be able to call upon the FSTP for that assistance. Nevertheless, OPP recommends that the PI designate a specific experienced person responsible for the safety of the field team other

than him/herself, so that both the scientific goals and the safety of the field party are addressed throughout field deployment.

During the merit review process, NSF/OPP will review the work plan to ensure that field safety concerns are addressed and adequate resources are included in the budget submission. If the proposal is funded, the PI or designated field safety leader may be asked to prepare documentation outlining how the field work will be carried out. That person may be expected to deploy to McMurdo, or Punta Arenas in advance of the rest of the field party, in order to check out field equipment. The balance of the field party still will be required to successfully complete the FSTP's one-to-three day shake-down course prior to field deployment. USAP field safety experts will also advise NSF on the preparedness of field parties prior to field deployment, and may be asked to advise NSF on specific situations that arise in the field.

Each field party's designated field safety leader shall submit an "end-of-season" report, which includes such things as execution of original field plan, technical problems that were encountered and their solutions, performance of issued equipment, and recommendations for improvement of the field safety program. The support contractor's FSTP staff will assimilate this information into their field safety program and into the subsequent revisions of the USAP Field Manual so that field safety and survival skills that are developed and refined throughout the program can be retained and be of use to future field activities. The USAP's support

contractor plays a pivotal role in capturing and disseminating practical safety and survival information for field party use. This can best be done through the development of a close, cooperative relationship with field teams and occasional direct involvement with field activities.