

**NATIONAL SCIENCE FOUNDATION (NSF)
UNITED STATES ANTARCTIC PROGRAM (USAP)
ANTARCTIC SUPPORT CONTRACT
DRAFT STATEMENT OF OBJECTIVES (SOO)**

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NATIONAL SCIENCE FOUNDATION (NSF) UNITED STATES ANTARCTIC PROGRAM (USAP) ANTARCTIC SUPPORT CONTRACT DRAFT STATEMENT OF OBJECTIVES (SOO)

1. BACKGROUND

The National Science Foundation (NSF) is an independent executive branch Federal agency established by the National Science Foundation Act of 1950, as amended. Its mission is to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

NSF is authorized to initiate and support:

- Basic scientific research and research fundamental to the engineering process,
- Programs to strengthen scientific and engineering research potential,
- Science and engineering education programs at all levels and in all fields of science and engineering,
- An information base on science and engineering appropriate for development of national and international policy,
- Fostering the interchange of scientific and engineering information nationally and internationally,
- Maintaining facilities in the Antarctic and promoting the U.S. presence through research conducted there, and
- Addressing issues of equal opportunity in science and engineering.

NSF's vision is to advance discovery, innovation and education beyond the frontiers of current knowledge, and empower future generations in science and engineering. NSF's goals--discovery, learning, research infrastructure and stewardship--provide an integrated strategy to advance frontiers of knowledge, cultivate a world-class, broadly inclusive science and engineering workforce, build the nation's research capability through investments in advanced instrumentation and facilities, and support excellence in science and engineering research and education.

With an annual budget of about \$6 billion, NSF funds approximately 20 percent of all federally supported basic research conducted by America's colleges and universities.

The United States Antarctic Program (USAP) is funded and managed by the NSF Office of Polar Programs (OPP). By Presidential direction (Presidential Memorandum 6646, 1982), the USAP maintains an "active and influential presence in Antarctica designed to support the range of U.S. Antarctic interests." The USAP represents the national effort in Antarctica for scientific research conducted by universities and research institutions, as well as by other Federal agencies. The USAP is responsible for enabling the success of science programs in Antarctica through sustaining logistics and support infrastructure at permanent stations, remote field camps, laboratory facilities, and on research vessels. The USAP operates within the framework of the Antarctic Treaty System and U.S. implementing laws.

Scientific research and the operational support of that research are the principal activities supported by the United States Government in Antarctica. The goals are

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- to expand fundamental knowledge of the region,
- to foster research on global and regional problems of current scientific importance, and
- to use the region as a platform from which to support research.

To achieve its goals, NSF operates three year-round scientific stations in Antarctica:

- McMurdo Station located on Ross Island in the southwestern corner of the Ross Sea is Antarctica's largest station and serves as a gateway for U.S. scientific field teams as well as the logistics hub for most U.S. scientific support activity,
- Amundsen-Scott South Pole Station is located 841 statute miles inland from McMurdo, at the geographic South Pole, and
- Palmer Station is located on Anvers Island in the Antarctic Peninsula region and is logistically isolated from the other stations.

2. PURPOSE OF CONTRACT

The contractor selected for the Antarctic Support Contract shall operate and maintain the United States' facilities in Antarctica in support of the scientific research activities being undertaken by the USAP. The contractor will be responsible for a wide-ranging set of activities which include:

- General Management;
- Science Support;
- Information Technology and Communications;
- Infrastructure, Operations, and Professional Services; and,
- Transportation and Logistics.

3. CUSTOMER RELATIONSHIP

The resulting contract is intended to create a cooperative relationship between the NSF and the Contractor. The NSF/Contractor relationship will reflect the attributes of an open, collaborative, customer-oriented, and professional association. The NSF intends to structure the contract in a manner that ensures the Contractor's goals and objectives are in alignment with those of the NSF, thus making the Contractor's performance critical to accomplishment of the USAP mission.

4. PERIOD OF PERFORMANCE

The Government is contemplating a period of performance of up to 11.5 years, consisting of base and option period(s), from October 1, 2009.

5. PLACE OF PERFORMANCE

Work will be performed within the United States, at forward staging facilities in Christchurch, New Zealand and Punta Arenas, Chile; at other international ports that serve as "gateways"; on the Southern Ocean, and throughout Antarctica.

6. CONTRACT OBJECTIVES

The contractor shall assume the managerial responsibility for providing daily operations in support of USAP.

As part of the process for managing this program the contractor is expected to:

- Consistently take steps to understand the NSF's priority business issues and opportunities;
- Share the risks and responsibilities of joint implementations and initiatives;
- Ensure its products and services deliver tangible and meaningful business benefits;
- Work collaboratively with other USAP contractors, government departments, and business partners to ensure project success.

The NSF seeks a competitive, innovative and integrated solution set (management, technical and business) for USAP support. It is fully recognized and expected that technology and requirements will evolve during the life of the contract. To that end, only the highest level objectives and the constraints mandatory to the acquisition are provided in this Statement of Objectives so as to encourage potential offerors to be innovative and creative in responding with their proposed solution. Readers should not infer or imply any other constraints on solutions, other than as specified in this document. The government strongly encourages innovative, systems integration type solution sets that address NSF's requirements. Ample time and opportunity will be provided for potential offerors to examine extensive documentation of the as-is state of the current support contract and several of the physical sites to determine the full set of requirements that need to be addressed in proposals.

7. GENERAL MANAGEMENT AND ADMINISTRATION

7.1 GENERAL MANAGEMENT AND ADMINISTRATION OBJECTIVES

General Management and Administration objectives are listed below:

- a) Provide or integrate the services/service providers required for the USAP to achieve its mission objectives over the full range of activities encompassed by the USAP utilizing best practices in financial, property, project, and program management.
- b) Provide support services within the context of a comprehensive safety, health, and medical program, while demonstrating leadership in the stewardship of the Antarctic environment.

- c) Promote clear and accurate understanding of the USAP mission through Information Programs and Publications utilizing secure IT and communication systems.

7.2 GENERAL MANAGEMENT AND ADMINISTRATION MINIMUM REQUIREMENTS

- a) The contractor shall establish systems to provide financial and project reporting and to allow the government to track contractor labor, direct and indirect costs to a level of detail that allows visibility to the major system, function, product, and service level.
- b) The contractor shall remain current with all developments in federal accounting and be prepared to adapt deliverables or deadlines as government guidance is revised.
- c) The contractor shall develop internal controls to minimize the potential for waste, fraud, and abuse.
- d) The contractor shall develop, implement and maintain an aggressive and comprehensive safety and occupational health risk management program that addresses the wide spectrum of routine and extraordinary hazards encountered by the diverse population of USAP participants at USAP locations in the U.S., in foreign countries, at sea, in the air, and in Antarctica, defined as that area of the world south of 60 degrees South latitude.
- e) In addition to compliance with standards, the safety and occupational health program shall incorporate the principles of operational risk management to address routine safety hazards, hazards encountered in unusual conditions and environments for which no standards exist, and dynamic operations.
- f) The safety and occupational health program shall interface with and complement the safety programs of other organizations and institutions, e.g., other Federal Agencies, New York Air National Guard, U.S. Air Force, universities, and other contractors.
- g) On the Antarctic continent and at major logistics nodes, e.g., Christchurch, New Zealand, and Punta Arenas, Chile, the contractor shall serve as NSF's representative in overseeing, assessing and enforcing all aspects of safety and safety risk management for all participants.
- h) The safety and occupational health program shall incorporate, but not be limited to, programs that manage and support the efforts of others in hazard identification; ionizing and non-ionizing radiation; scientific diving; logistics and research vessel safety; aviation ground support; remote field operations and mountaineering; laboratory safety; high altitude operations; explosives storage and blasting; boating; fire protection; confined spaces; unusual motor vehicle operations; emergency management; construction; off-duty and recreational programs; routine and specialized safety awareness programs, training, and on-ice orientation; mishap notification, investigation, reporting and record-keeping; risk analysis and management for operations and research projects; supply and management of protective equipment; industrial hygiene; and environmental health, to name a few.

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- i) The contractor shall develop emergency response plans and maintain a capability to mitigate and respond to emergencies affecting USAP participants and facilities, including but not limited to medical emergencies, structural and aircraft fires, spills and other environmental emergencies, natural disasters, persons lost on land and on water, diving mishaps, persons trapped, aviation mishaps, and others. Emergency response personnel shall be appropriately trained and equipped for their duties.
- j) The contractor shall store, handle, issue, recover, dispose, and oversee the use of radioactive material used by USAP participants under NSF's supervision.
- k) The contractor shall perform environmental impact assessments for the USAP in accordance with the Protocol on Environmental Protection to the Antarctic Treaty and the National Environmental Policy Act (NEPA), and NSF policies.
- l) The contractor shall develop and maintain Spill Prevention Control and Countermeasure (SPCC) plans which adequately address conditions at all USAP locations.
- m) The contractor shall provide an environmental education program for all USAP participants.
- n) The contractor shall conduct environmental monitoring and environmental audit programs at the direction of the NSF.
- o) The contractor shall ensure that people are physically and mentally qualified to deploy to the Antarctic to perform the required work.
- p) The contractor shall maintain accurate and complete medical records of individuals, including screening records and any treatments administered in Antarctica. Medical records shall be the property of NSF and will be maintained separate from any records management system the contractor may develop for its own organizational needs.
- q) The contractor shall develop procedures for medical evacuation of USAP personnel from Antarctica.
- r) The contractor shall conduct and successfully conclude all assigned projects using commercial best practices appropriate to the activity being performed.
- s) The contractor shall provide cost estimates and resource-loaded project schedules for all projects over \$30,000, to include plans that are executable and integrate all aspects of the work.
- t) The contractor shall provide on a monthly basis project performance analysis, cost analysis, and risk management through the use of an Earned Value Management System (EVMS) for specified projects and provide early detection and notification of problems.
- u) The contractor shall perform project estimating to include: conceptual design estimates (American Association of Cost Engineers (AACE) Class 5), detailed design estimate from 30% to 70% design completion (AACE Class 2), with final cost estimates between the 90%-100% design.

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- v) The contractor shall develop itemized task descriptions and schedules for all austral summer tasks and winter-over period tasks in accordance with standard project management procedures.
- w) The contractor shall promote clear and accurate understanding of the USAP mission, activities, and its history to appropriate audiences.
- x) The contractor shall ensure that all USAP participants have accurate and consistent information needed to perform their assigned duties.
- y) The contractor shall maintain an accessible repository of USAP past, present, and future knowledge and activities.
- z) The contractor shall operate the USAP.gov web portal, to provide programmatic and outreach information to program participants and the general public. The portal includes the Antarctic Sun, the USAP Photo Library, and video/multimedia resources about USAP operations and science.
- aa) The contractor shall maintain a field/CONUS (Continental United States) video production capability sufficient to support Contractor production of rapid turn-around video news releases, historical stock footage, live teleconferences, and USAP training videos.
- bb) The contractor shall establish and maintain the ability to feed USAP network transported video/audio into the public broadcast distribution system in support of NSF sponsored broadcast media events (e.g. video conference feed from Antarctica to a national television broadcaster).
- cc) The contractor shall operate an information security and privacy program that ensures adequate security and complies with federally mandated and NSF security and privacy requirements.
- dd) The contractor shall protect and enhance NSF's and USAP's information security and privacy reputation through leadership in the Federal government and academic environments.
- ee) The contractor shall provide an information assurance (IA), security, privacy, and risk management program, that communicates, implements, monitors, reports on, and improves security and privacy for all forms of USAP information. Information shall be protected to assure confidentiality, integrity, availability, authorization, authentication, and non-repudiation.
- ff) A contractor Information Assurance Program Manager (IAPM) shall have appropriate experience to support the IA Program. The IAPM shall have a Certified Information Systems Security Professional (CISSP), Certified Information Systems Auditor (CISA), Certified Information Security Manager (CISM), or Global Information Assurance Certification (GIAC) Security Leadership Certificate (GSLC). The IAPM shall be subject to annual government approval.

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- gg) The contractor shall monitor, respond to, investigate, and report on potential and actual security and privacy violations of USAP information to NSF in accordance with US Computer Emergency Readiness Team (US-CERT) and NSF guidance.
- hh) The contractor shall assure continuous USAP wide testing, implementation, monitoring, updates, reporting, and compliance with government required National Institute of Standards and Technology (NIST) information security controls.
- ii) The contractor shall provide annual IT training of all USAP program participants requiring access to USAP information technology resources to fulfill regulatory and law requirements.

7.3 GENERAL MANAGEMENT AND ADMINISTRATION CONSTRAINTS

- a) The government will provide the contractor with property, equipment, and applications which the contractor must be responsible for maintaining and must take appropriate steps to ensure that they will remain functional until replacement.
- b) At the time of contract award, the contractor will assume responsibility for existing leases and charters and operator agreements (e.g, Christchurch Airport Authority, U.S. Navy at Port Hueneme).
- c) The contractor must transfer all systems and data to NSF at the conclusion of the contract.
- d) All persons employed by the contractor in Antarctica – either directly or indirectly through subcontracts or other arrangements – must be US citizens or permanent residents of the US unless authorized by the NSF. This constraint does not apply to foreign-country activities in New Zealand or South America.
- e) Coordination with other national Antarctic programs and foreign governments is done only by the NSF, except when specifically authorized.
- f) All financial reporting and management of US government furnished plant, property, and equipment must be in accordance with established federal and NSF guidance.
- g) The contractor must operate a project headquarters in the continental United States.
- h) The USAP has a zero-tolerance policy for drug and alcohol abuse.
- i) All personnel must have a current National Agency Check with Inquiries (NACI) background investigation or the equivalent for foreign nationals.
- j) Unless specifically waived by NSF, the contractor must comply with the safety and occupational health program, U.S. Occupational, Safety and Health Administration (OSHA) and other Federal standards, or, in other countries, host national, regional and local standards when more stringent than U.S. standards. Where compliance is not

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feasible, alternate risk management measures will be implemented, subject to NSF approval.

- k) The contractor must comply with the Nuclear Regulatory Commission (NRC) regulations in 10 CFR (Code of Federal Regulations) Part 20 for radiation protection standards for radioactive material in Antarctica, and U.S. Department of Transportation regulations for packaging and transport of such radioactive materials.
- l) The contractor must comply with NRC, U.S. Environmental Protection Agency (EPA), and Agreement State requirements when disposing of radioactive waste generated in Antarctica and returned to the U.S.
- m) Unless specifically waived by NSF, the contractor must use applicable safety and emergency response-related consensus standards in circumstances where their use would be appropriate in the U.S. Where compliance is not feasible, alternate risk management measures will be implemented, subject to NSF approval.
- n) The contractor must comply with Department of Defense (DoD) and Air Mobility Command Aircraft Rescue and Fire Fighting (ARFF) regulations.
- o) All activities in Antarctica must be conducted in accordance with environmental protocols outlined in the Antarctic Treaty System and the Antarctic Conservation Act of 1978, as amended by the Antarctic Science, Tourism and Conservation Act of 1996.
- p) All personnel traveling to Antarctica are subject to medical, dental and psychological (winter-over only) screening against a set of guidelines administered by the NSF.
- q) As a general practice personnel may not spend longer than twelve months continuously in Antarctica without leaving the continent for a minimum period of not less than sixty days that will not be reimbursed by NSF.
- r) Project management and controls software must be equivalent to and capable of seamless linkage with Primavera, Expedition, and Timberline.
- s) Project schedules must be integrated and follow the Critical Path Method (CPM).
- t) Internet content developed must comply with NSF's web development policy and standards manual (<http://www.nsf.gov/web/guide/>) and any applicable federal standards. A list of federal guidelines is available on the USA.gov website (http://www.usa.gov/webcontent/reqs_bestpractices/laws_regs.shtml).
- u) All press releases and media activity for the USAP must be coordinated and cleared through the NSF.
- v) The contractor must comply with all information security and privacy laws, as amended and extended, including, but not limited to the Privacy Act of 1974 and the Federal Information Security Act of 2002 (FISMA 2002).
- w) The contractor must comply with all government standards, guidance, mandates, recommendations, policies, procedures, instructions, and directions for information

security and privacy. This includes, but is not limited to the NIST, Office of Management and Budget (OMB), and NSF guidance as amended and extended.

8. SCIENCE SUPPORT

8.1 SCIENCE SUPPORT OBJECTIVES

The mission objective of Science Support is to provide support to NSF grantees to facilitate research and experiments conducted in the Antarctic and the Southern Ocean through agile and comprehensive planning and field support.

8.2 SCIENCE SUPPORT MINIMUM REQUIREMENTS

- a) The contractor shall effectively interact with potential and awarded grantees to develop timely and comprehensive field plans, operational and technical support requirements, and logistics.
- b) The contractor shall support research projects that vary in size and scope, and span the natural sciences and engineering, with education and outreach objectives that are conducted at USAP stations, remote field sites, on board research vessels, or at facilities of other nations' programs.
- c) The contractor shall provide and retain a qualified, educated, and experienced workforce to ensure continuity of the knowledge base and skills necessary to assist in the assessment of field requirements of research proposals. Science support staff shall be familiar with academic research environments and shall have the ability to support the type and scope of scientific research performed in the USAP.
- d) The contractor shall provide and sustain a planning process to efficiently coordinate and implement single and multiple NSF-investigator led science and engineering research projects that complements NSF's decisions making time lines and processes in proposal review. The planning process should achieve, but is not limited to:
 - i) Timely and accurate projections of current and future support requirements.
 - ii) Enabling required activities for building and evaluating current and future support requirements.
 - iii) Contributing and responding to NSF's short term and long-range strategic science planning goals, and;
 - iv) Continuous monitoring to improve the efficiency and effectiveness of science support activities.
- e) In consultation with NSF the contractor shall develop, execute and monitor a comprehensive, integrated annual science support plan of approved projects that is

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within available USAP resources, budgeted cost, schedules, and other USAP-driven constraints.

- f) The contractor shall prepare an integrated science program summary for NSF approved projects and appropriate technical events for each field season.
- g) The contractor shall support projects sponsored by other Federal agencies as defined in inter-agency agreements with the NSF as well as projects coordinated with other Nations.
- h) The contractor shall communicate the 5-year outlook of major resource commitments to the research community to aid in the development of research proposals.
- i) The contractor shall ensure successful management of commitments and visibility into the planning process.
- j) The contractor shall provide an information database for interactive science planning with investigators and ensure continuity with legacy data.
- k) The contractor shall provide, operate, maintain, and replace as required common use field equipment, including installed equipment and systems mounted on research vessels.
- l) The contractor shall provide operations, maintenance, and technical support to science facilities, remote sites, and/or experiments as required.
- m) The contractor shall provide a comprehensive range of field support services for grantees.

8.3 SCIENCE SUPPORT CONSTRAINTS

- a) Science support must be conducted in accordance applicable U.S. laws, regulations, and directives.
- b) Nuclear Regulatory Commission (NRC) regulations in 10 CFR Part 20 will serve as the radiation protection standards for radioactive material in Antarctica, and U.S. Department of Transportation regulations for packaging and transport of such radioactive materials apply.
- c) Disposal of radioactive waste generated in Antarctica and returned to the U.S. for disposal will be consistent with NRC, U.S. Environmental Protection Agency (EPA), and Agreement State requirements. Depending on circumstances, under NSF's supervision and authorization, the contractor will store, handle, issue, recover, dispose, and oversee the use of radioactive material used by USAP participants.
- d) Scientific diving must be conducted in accordance with 29 CFR 1910.401(a)(2)(iv), 1910.402, 1910 Subpart T, Appendix B, and the USAP Antarctic Scientific Diving Manual.

- e) Explosives must be stored, handled, and transported in accordance with 29 CFR 1910.109 and 49 CFR, Chapter 1. Explosives shall be used in accordance with the more stringent of 29 CFR 1910.109 or the state regulations in which the blaster is certified.
- f) The contractor must support the authorized use of radioactive materials as required by NSF policy.

9. INFORMATION TECHNOLOGY AND COMMUNICATIONS

9.1 INFORMATION TECHNOLOGY AND COMMUNICATIONS OBJECTIVES

The contractor shall provide the Information Technology and Communication (IT&C) services required to allow the USAP to achieve its mission objectives. The IT and Communication objectives are listed below:

- a) Deliver industry best practices to govern, sustain and evolve the IT and communications infrastructure portfolio; deliver and manage services; and, facilitate transformational improvements in USAP science research program support, mission operations, and mission management practices.
- b) Provide quality and reliable communications throughout the USAP supporting voice and data transmission through a variety of communications systems and networks.
- c) Upgrade and apply evolving technology to the operating satellite communications and earth stations in Antarctica and continental U.S. teleport services to the USAP-wide area network.

9.2 INFORMATION TECHNOLOGY AND COMMUNICATIONS MINIMUM REQUIREMENTS

- a) The contractor shall be the principal source of supply for IT for the entire USAP program and its participants.
- b) The contractor shall provide for, operate and maintain the technical infrastructure in accordance with current industry best practice for IT services management frameworks.
- c) The contractor shall develop and sustain a proactive technology management process for IT&C to guide technology investment and refresh actions.
- d) The contractor shall provide managed services for testing/evaluation/integration of USAP program participant provided systems/equipment prior to release for transport to Antarctic operating locations.
- e) The contractor shall ensure that all Contractor provided systems/equipment shall be tested, evaluated, integrated to ensure readiness prior to release for transport to Antarctic operating locations.

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- f) The contractor shall provide a high degree of integration of needs of Program participants and a high level of maturity and continuous improvement in all applicable IT&C service areas.
- g) The contractor shall provide IT strategy and transformation support to the Government based on industry best IT governance practices. The contractor shall develop, implement, and enforce enterprise architectural standards.
- h) The contractor shall provide Technology Acquisition Assessments for major systems design and development activities.
- i) The contractor shall develop, document, and implement a USAP IT Customer Service Plan that addresses the Contractor's Concept of Operations and procedures for IT&C services.
- j) The contractor shall provide all inside and outside cable plant systems design, installation, and management in accordance with applicable industry recognized standards and best practices.
- k) The contractor shall provide on-demand training for the USAP participant community for operational use of USAP-issued communications equipment.
- l) The contractor shall support all tasks involved in the operation and maintenance of all terrestrial earth stations for government and commercial fixed and mobile satellite services.
- m) The contractor shall provide, operate, and maintain new and existing global and local modern telecommunications services that support life/safety, command and control, mission operations, scientific research, and morale/welfare.
- n) The contractor shall provide regional and long haul high frequency (HF) radio, very high frequency and ultra high frequency (VHF/UHF) land mobile radio (LMR), wireless paging, point-to-point radiotelephone, mobile satellite service (Iridium Satellite LLC), and trunked microwave radio communications infrastructure, operations, maintenance, and services delivery/management.
- o) The contractor shall provide amateur radio services management for Government sponsored amateur radio club stations.
- p) The contractor shall provide radio and television programming outlet services at the Antarctic stations and for the Christchurch, NZ operating locations.
- q) The contractor shall provide professional dispatch and command center services.
- r) The contractor shall provide local area networking (LAN) and wide area networking (WAN) services to USAP operating locations and facilities.
- s) The contractor shall provide, operate, and maintain the USAP central enterprise data center capability, research vessels, and local station data center capability including physical infrastructure.

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- t) The contractor shall provide IT service continuity and disaster recovery services for the data centers and global WAN links.
- u) The contractor shall meet the USAP desktop computing and LAN appliance needs for USAP operations at Antarctic stations, research vessels, and non-Antarctic logistics centers.
- v) The contractor shall provide and support applications to achieve USAP mission activities utilizing non-developmental and commercial software products wherever possible.
- w) The contractor shall provide general electronics troubleshooting, bench repair and servicing capability at all Antarctic stations.
- x) The contractor shall provide an IT&C system that flexibly accommodates a range of science project needs as science requirements evolve.
- y) The contractor shall assess technology selection/insertion and conduct make-or-buy assessments, issuing a formal report/recommendation for proposed major acquisitions where the Government will take ownership.
- z) The contractor shall support IT&C services commitments made by the Government to external customers prior to contract transition, including other Federal Government tenants and partners.
- aa) The contractor shall team with Space and Naval Warfare (SPAWAR) Systems Center Charleston and its contractors for joint operations and maintenance support of the McMurdo shore-station HF radio system, as specified in a mutually agreed integrated logistics support plan to be provided by the Government.
- bb) The contractor shall utilize SeaSpace Inc. TeraScan Government Furnished Equipment (GFE) satellite remote sensing earth terminals and associated data processing hardware/software unless otherwise specified by the Government.
- cc) The contractor shall maintain Aeronautical Flight Telecommunications Network (AFTN) service connection and custom application software until directed otherwise by the government.

9.3 INFORMATION TECHNOLOGY AND COMMUNICATIONS CONSTRAINTS

- a) The contractor must comply with U.S. Statute Law, NIST, OMB and NSF guidance, policy, standards, and direction. Contractor shall take particular note of FISMA statute law and NSF agency implementation of FISMA guidance.
- b) The contractor must ensure that government furnished legacy mission applications transitioned to the contractor remain functional until replacement.
- c) The contractor must provide a Chief Information Officer (CIO) as part of the senior management team to oversee the governance of IT&C.

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- d) The contractor must comply with USAP electromagnetic (EM) spectrum management guidelines, protocols, and procedures.
- e) The contractor must comply with NSF application of Federal Communications Commission (FCC) amateur radio regulation.
- f) The contractor must comply with NSF EM spectrum management policy and implementation.
- g) The contractor must use government furnished space segments where applicable.
- h) The contractor must comply with the terms/conditions of the NSF-Navy Media Center Memorandum of Understanding (MOA), as amended and extended. The contractor must also comply with regulations/guidance stipulated by inter-Governmental agreements securing services from the Navy Media Center, the Navy Motion Picture Service, and Antarctica/NZ. The contractor must comply with content copyright restrictions. The contractor must serve in the capacity of "Outlet Station Manager" per agreement with the Navy Media Center.
- i) The Government will retain ownership of the USAP wide area networking infrastructure.
- j) Contractor personnel performing technical servicing of Antarctic station radio communications systems must possess a proficiency equivalent of an FCC General Radiotelephone Operator License (47CFR13).
- k) Communications satellite assets supporting Amundsen-Scott South Pole Station are NSF-owned.
- l) Contractor personnel performing in the capacity of Antarctic station radio operators, emergency response center managers, and similar functions will utilize the following professional standards, or equivalents:
 - i) National Fire Protection Association (NFPA) Job Performance Standard 1061, Standard for Professional Qualifications for Public Safety Telecommunicator
 - ii) Association of Public-Safety Communications Officials (APCO) National Public Safety Telecommunicator Safety Training Standard
 - iii) FCC Restricted Radiotelephone Operator Permit (radiotelephone operator's restricted certificate) (47CFR13) as appropriate.
- m) The contractor must ensure that radio operators of HF radio communications services provide operating procedures, on-going training plans, and skilled staff versed with the unique skills required for HF radio communications, to include a familiarity with the behavior of HF radio propagation conditions as experienced in the polar regions.

10. TRANSPORTATION AND LOGISTICS

10.1 TRANSPORTATION AND LOGISTICS OBJECTIVES

The contractor shall provide the services required to allow the USAP to achieve its transportation and logistics mission objectives. The mission objectives are to:

- a) Operate a fully integrated supply chain, cargo and personnel movement network (air, land and sea) that effectively and efficiently supports the USAP mission;
- b) Optimize the physical footprint of personnel and assets throughout USAP while fully achieving the USAP mission.

10.2 TRANSPORTATION AND LOGISTICS MINIMUM REQUIREMENTS

- a) The contractor shall coordinate the planning, schedules, and support for all USAP aircraft and vessels.
- b) The contractor shall provide comprehensive support for USAP aviation operations (exclusive of aircraft maintenance and air traffic control).
- c) The contractor shall provide planning and coordination for scheduled and unscheduled inter- and intra-continental flight activities in support of all USAP activities.
- d) The contractor shall efficiently use available USAP facilities, and utilize other potential resources to store, control, issue, and restock supplies and materials to support the needs at the three Antarctica stations and at other sites of USAP activity.
- e) The contractor shall develop transportation networks and coordinate the use of transportation assets to enable efficient personnel and materials movement in support of all USAP operations and science activities.
- f) The contractor shall provide complete visibility for the location and movements of all material and personnel associated with the USAP.
- g) The contractor shall utilize industry standard supply chain systems to achieve integrated management of the entire logistics function to optimize use of existing infrastructure, minimize physical footprint, and minimize cost of inventory.
- h) The contractor shall provide leadership in logistics planning for the movement of all materials (including scientific samples and instruments) and personnel to and from Antarctica.
- i) The contractor shall develop specifications for, solicit providers for, and arrange the procurement of all required materials utilizing a best value analysis.

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- j) The contractor shall provide for the proper storage, transport, documentation and handling of all materials for use in the USAP from point of origin to destination, and if needed, return.
- k) The contractor shall process and provide all travel and outfitting services for USAP participants to designated work sites that are part of the USAP.
- l) The contractor shall provide and maintain an effective inventory control program designed to encourage economy of supplies.
- m) The contractor shall manage cargo staging and loading and unloading for aircraft and ships at all supply chain network nodes.
- n) The contractor shall administer legal representation for the USAP leases (e.g., office and warehouse space, vehicles and equipment).
- o) Upon contract award, contractor must provide for guard services at USAP facilities in Christchurch.

10.3 TRANSPORTATION AND LOGISTICS CONSTRIANTS

- a) The contractor must comply with the requirements contained in the Federal Travel Regulation related to travel issues and reimbursement rates.
- b) The contractor must comply with NSF Waste Regulations (45 CFR 671) and the terms and conditions of the USAP Master Permit.
- c) The contractor must comply with common rules and regulations governing transportation as enforced by the Federal and State's Departments of Transportation and the Federal Aviation Administration throughout the USAP.

11. INFRASTRUCTURE, OPERATIONS, AND PROFESSIONAL SERVICES

11.1 INFRASTRUCTURE, OPERATIONS, & PROFESSIONAL SERVICES OBJECTIVES

The contractor shall plan, manage, and execute necessary services required to support permanent and temporary facilities, roads, airfields, ports, utilities, and fuel systems that support science, operations, and general administration of the USAP and allow the USAP to achieve its mission objectives. The Infrastructure, Operations and Professional Services objectives are listed below:

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- a) Supporting a safe and hygienic working and living environment through sound planning principles.
- b) Preventing loss of life and property with a comprehensive fire and emergency services program.
- c) Maximizing operational efficiency and flexibility throughout the infrastructure network.
- d) Optimizing support capabilities to minimize the physical footprint and enhance energy efficiency consistent with environmental practices.
- e) Demonstrating flexibility in response to changing programmatic requirements.

11.2 INFRASTRUCTURE, OPERATIONS, & PROFESSIONAL SERVICES MINIMUM REQUIREMENTS

- a) The contractor shall implement a proactive and comprehensive fire, safety and related emergency prevention program, incorporating inspections, training and other forms of outreach and enforcement.
- b) The contractor shall stock and provide personal protective equipment, and training in its proper use, for all conditions encountered and all activities engaged in by USAP participants.
- c) The contractor shall regularly inspect and maintain existing fire protection, detection and alarm systems in accordance with appropriate standards.
- d) The contractor shall maintain a capability to coordinate, manage, respond to and mitigate emergencies of all types affecting USAP to include the provision of appropriate level(s) of medical services/expertise at all Antarctic stations and at field camps.
- e) The contractor shall maintain, manage and operate vehicles and mechanical equipment to industry standards as applicable to USAP to ensure availability of assets at all stations and field sites.
- f) The contractor shall stock, operate, manage and maintain a dedicated mechanical/electrical equipment center(s) serving the needs of all stations and field science programs.
- g) The contractor shall provide comprehensive meal planning and food services at the three stations and at field camps in Antarctica ensuring a reasonable variety and appropriate nutritional content.
- h) The contractor shall provide and manage housing assets to supply appropriate berthing for program personnel at all stations, at field camps and on research vessels.

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- i) The contractor shall clean common use living space, bathrooms, administrative offices and other public areas at all stations.
- j) The contractor shall provide laundry services to meet USAP operational requirements.
- k) The contractor shall provide site-appropriate social, recreational and entertainment functions in Antarctica. The contractor shall operate and maintain a retail store(s) at each of the three Antarctic stations for the sale of snacks, toiletries, personal hygiene products, and souvenirs.
- l) The contractor shall provide a means at all stations for participants to obtain U.S. currency.
- m) The contractor shall provide U. S. Postal services at each of the three Antarctic stations and at the Air Post Office (APO) in Christchurch NZ.
- n) The contractor shall develop engineering designs as required for new infrastructure or modifications to existing facilities. All engineered designs shall be stamped by a professional engineer and/or architect as appropriate.
- o) Professional Engineers (PE's) in all engineering disciplines should be available for engineering design, and review of all construction, renovations, and facility maintenance requirements.
- p) The contractor shall coordinate with other USAP professional and technical service contractors/providers for design and construction as appropriate.
- q) The contractor shall manage, operate and maintain all USAP facilities, utilities, infrastructure systems and mechanical/electrical equipment to a service level that maximizes efficiency and life expectancy.
- r) The contractor shall manage, operate, and maintain all USAP bulk fuel storage and distribution systems.
- s) The contractor shall manage, operate, and maintain facilities at McMurdo and Palmer Stations that facilitate the safe and efficient on- and off-loading of cargo, fuel, and research vessels.
- t) The constructor shall construct, manage, operate, and maintain airfield(s)/heliport(s) (and necessary support systems) to facilitate safe and effective USAP air operations.
- u) The contractor shall distribute reliable and continuous utilities services for fuel, power, water, and sewage treatment at all USAP stations on a 24/7/365 basis and as required at field camps.
- v) The contractor shall collect, process, package, and document solid waste generated by the USAP, including hazardous materials, to ensure acceptance for import and disposal in the U.S.

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- w) The contractor shall provide site specific aviation weather observations when required.
- x) The contractor shall plan, design, execute and manage capital projects proactively using tools consistent with industry best practices (e.g., Earned Value Management).
- y) The contractor shall provide for appropriate purchase, management, and use of hazardous materials, including explosives.
- z) The contractor shall maintain a reliable supply of appropriate fuel at all facilities where fuel is required.
- aa) The contractor shall establish and maintain communications facilities for reliable communication with and monitoring of the status of persons, vehicles, and field camps.

11.3 INFRASTRUCTURE, OPERATIONS, & PROFESSIONAL SERVICES CONSTRAINTS

- a) National Fire Protection Association (NFPA) National Fire Codes and OSHA standards, as applied to structures, equipment, and personnel, will be applicable in Antarctica in those circumstances where their use would be applicable in the U.S. unless specifically waived by NSF.
- b) The contractor must comply with International Building Code (IBC) and family of codes for design application.
- c) The contractor must comply with Department of Defense (DOD)/Air Mobility Command air operations regulations (e.g., ARFF).
- d) All position-related licenses and certifications must be kept current.
- e) All foods furnished by the contractor are subject to inspection by the US Government.
- f) Waste management operations must be compliant with NSF Waste Regulations (45 CFR 671) and the terms and conditions of the USAP Master Permit.
- g) Waste classification, packaging, and labeling must be in accordance with the Resource Conservation and Recovery Act as well as applicable regulations issued by USDA, DOT, International Air Transportation Association (IATA), the International Maritime Dangerous Goods (IMDG), and applicable individual state ecology and health departments.
- h) Postal service support must be conducted in accordance with the DD Form 1144 Support Agreement dated September 2005 between the NSF and the Pacific Air Forces (PACAF).

- i) American Petroleum Institute (API) guidelines and regulations must be followed to the maximum extent within the USAP.

12. ACRONYM LIST

A

AACE - American Association of Cost Engineers
AFTN - Aeronautical Flight Telecommunications Network
APO - Air Post Office
APCO - Association of Public-Safety Communications Officials
API - American Petroleum Institute
ARFF - Aircraft Rescue and Fire Fighting

B

C

CFR - Code of Federal Regulations
CIO - Chief Information Officer
CISA - Certified Information Systems Auditor
CISM - Certified Information Systems Manager
CISSP - Certified Information Systems Security Professional
CONUS - Continental United States
CPM - Critical Path Method

D

DoD - Department of Defense
DOT - Department of Transportation

E

EM - Electromagnetic
EPA - Environmental Protection Agency
EVMS - Earned Value Management Systems

F

FCC - Federal Communications Commission
FISMA - Federal Information Security Management Act

G

GFE- Government Furnished Equipment
GIAC - Global Information Assurance Certification
GSLC - GIAC Security Leadership Certificate

H

HF - High Frequency

I

IA - Information Assurance

IAPM - Information Assurance Program Manager

IATA - International Air Transportation Association

IBC - International Building Code

IMDG - International Maritime Dangerous Goods

J

K

L

LAN - Local Area Networks

LMR - Land Mobile Radio

M

MOA - Memorandum of Agreement

N

NACI - National Agency Check with Inquiries

NEPA - National Environmental Policy Act

NFPA - National Fire Protection Association

NIST - National Institute of Standards and Technology

NZ - New Zealand

NRC - Nuclear Regulatory Commission

O

OPP - Office of Polar Programs

OMB - Office of Management and Budget

OSHA - Occupational, Safety and Health Administration

P

PACAF - Pacific Air Forces

PE - Professional Engineer

Q

R

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SOO – Statement of Objectives
SPAWAR - Space and Naval Warfare
SPCC - Spill Prevention Control and Countermeasure

T

U

USAP - United States Antarctic Program
US-CERT - United States Computer Emergency Readiness Team
USDA - United States Department of Agriculture

V

VHF/UHF - Very High Frequency/Ultra High Frequency

W

WAN - Wide Area Networks

X

Y

Z