

SOLICITATION/SUBCONTRACT FORM

THIS SOLICITATION IS A RATED ORDER UNDER DPAS (15 CFR 700)
RATING DO-C9

TASKED UNDER NASA PRIME CONTRACT **NAS4-00047**

REQUEST FOR PROPOSAL: AAI080975-08-002

ORIGINAL ISSUE DATE: MARCH 25, 2008
AMENDMENT DATE: NOVEMBER 14, 2008

FIRM FIXED PRICE SUPPLY / PURCHASE ORDER

ISSUED BY: Arcata Associates, Inc. (Arcata)
ATTN: Procurement
P.O. Box 9
Edwards, CA 93523

ARCATA SYMBOL: 080975

TELEPHONE: (661) 276-2591

FAX: (661) 276-6092

E-MAIL: Anne.Crowell-1@nasa.gov

Overnight or express packages should be addressed to:

Arcata Associates, Inc. (Arcata)
ATTN: Procurement
Building 4876, Warehouse 6
Edwards, CA 93523

Offers must be received at the "issued by" office no later than January 30, 2009,
3:00 p.m., Pacific Standard Time.

SECTION B

SUPPLIES OR SERVICES AND PRICES/COSTS

B.1 SUPPLIES TO BE FURNISHED

In accordance with this contract, the Supplier shall furnish all materials, labor, equipment and facilities, except as specified herein to be furnished by the Government, and shall do all that which is necessary or incidental to the satisfactory and timely performance of this project entitled “Antenna Tower Installation” for Arcata Associates, Incorporated, Edwards, California 93523. This effort consists of a base bid.

This solicitation is for the supplies/services detailed below:

*ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT PRICE	ESTIMATED COST
MATERIAL				
001	Provide a design/build bid encompassing all facets of the design, construction and installation of the towers, catwalk, and associated equipment.			
002	Provide all engineering, materials, equipment, labor, documentation, and related work to erect six US Tower Corp. (HDX-689) Antenna Towers Government Furnished Equipment (GFE).			

Pricing should be valid for a period of 180 days.

All engineering and construction codes developed by the Supplier under this Purchase Order shall be delivered with original source code to Arcata Associates, Inc. prior to completion of this contract.

The estimated cost of this subcontract is \$ TBD. The maximum available fixed price fee, is \$ TBD. Total estimated cost and maximum fixed price is \$ TBD.

(End of Clause)

B.2 CONTRACT FUNDING (NFS 1852.232-81) (JUN 1990)

(a) For purposes of payment of cost, in accordance with the Limitation of Funds clause, the total amount allotted by Arcata to this Purchase Order is \$ TBD. This allotment is for TBD and covers the following estimated period of performance: TBD.

(End of clause)

SECTION C

DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C.1 BACKGROUND

This is a Design-Build Purchase Order. It provides the terms, policies, procedures, criteria, and standards applicable to design/build projects under contracts awarded by Arcata Associates, Inc. at the Dryden Flight Research Center, Edwards, California.

- 1.1 GENERAL DESCRIPTION:** This is a preliminary Statement of Work (SOW). The task required is to provide a design/build bid encompassing all facets of the design, construction and installation of the towers, catwalk, and associated equipment as shown in notational attached drawings, attachment A. Provide all engineering, materials, equipment, labor, documentation, and related work to erect six US Tower Corp. (HDX-689) Antenna Towers Government Furnished Equipment (GFE) at Bldg. 4720 at the National Aeronautics and Space Administration (NASA) Dryden Flight Research Center, Edwards AFB, 93523-0273 (Building also known as Aeronautical Tracking Facility #2 (ATF 2)). The work is to include: graded access road, concrete caisson foundations and integral slab, concrete pads and walkways and cable retraction system, 20' high elevated steel work platform and access bridge, cable trench across driveway with four 4 inch diameter penetrations into the sub floor of B4720, antenna grounding system, erection of six GFE HDX-689 retractable antenna towers; and miscellaneous related work. **The proposal shall include a set of preliminary construction documents, including drawings, specifications, and cost estimate.**

Section J of this solicitation consists of the following attachments:

- A Preliminary Drawings
 - A.1 Aeronautical Tracking Facility (ATF) 2 Top View 5 Nov 08
 - A.2 ATF 2 Catwalk 5 Nov 08
 - A.3 ATF 2 Underground
 - A.4 Cable Retraction Concept 5 Nov 08
- B Standard Requirements Section 01010D
- C General Safety Requirements Section 01411D
- D Soils Engineering Report
- E Requirements Checklist

- 1.2 CONTRACT DRAWINGS:** The following Drawings shall be included in this Purchase Order and describe the project more particularly in detail:
1. Location Plan & Title Sheet
 2. Site Plan, Grading & Drainage
 3. Civil Details

4. Foundation and Slab Plan
5. Concrete Structural Details
6. Steel Work Platform Plan & Elevations
7. Steel Work Platform & Bridge Structural Details
8. Electrical Plan
9. Electrical & Grounding Details
10. Others as required to describe the work

1.3.1 GOVERNMENT FURNISHED EQUIPMENT (GFE):

6 each: Motorized Retractable Antenna Tower Model #HDX-689

6 each: Steel base plate units

72 each: Foundation anchor bolts 1 1/8 diameter by 27.5" long
Geological Investigation (Soils Engineering Report)

1.3.2 GENERAL REQUIREMENTS: See attached Section 01010D General Requirements. Provide a brief description on how the requirements will be addressed in Attachment B Section 1.3.

1.3.3 GENERAL SAFETY REQUIREMENTS: See attached Section 01411D General Safety Requirements. Provide a brief description on how the requirements will be addressed in Attachment C Section 1.3.

1.4 SITEWORK & DEMOLITION

1.4.1 SITE PREPARATION: Construct an earthen pad for the tower slab, dead-level, at lines and grades. Construct all-weather service access (non-paved) road to tower and retractor slabs. Provide drainage to prevent standing water.

1.4.2 GEOTECHNICAL INVESTIGATION: The attached Soils Engineering Report is provided. Reference: 1.3.1

1.4.3 SEWER LEACH LINES: After further site survey, the existing two active sewer leach lines are not within the tower caissons.

1.4.4 EXCAVATE CAISSONS: From the top of the access road grade, drill or excavate six caisson foundations (build to US Tower Corp. specifications), 60" square and 9'6" deep into the existing ground. This is rocky soil and blasting is not allowed on this site. The scope of this contract includes all rock and debris removal.

1.4.5 MISCELLANEOUS DEMOLITION:

- A. Saw cut the asphalt paving and concrete curb (two cuts) across the south-side driveway between B4720 and the guard rail (for 18" wide by 12" deep cable trench).
- B. Core drill four 4" diameter holes below the raised access floor and into the new cable trench.
- C. Remove 4.0' to 5.0' of steel guard rail at the new bridge.

1.5 CONCRETE

- 1.5.1 SUBMITTALS:** Prior to placement of any concrete, submit to Arcata Project Manager and receive approval for the Concrete Mix Design for all ready-mix concrete products.
- 1.5.2 CAISSON ANCHORAGE:** Drill min. 1" diameter holes at 24" o/c minimum 12" deep into bedrock below caissons. Epoxy grout in #6 deformed rebar dowels for attachment to steel reinforcement for concrete caisson foundation.
- 1.5.3 FORMING:** Form up concrete caisson caps, cable trench, utility pads and sidewalks to lines and grades.
- 1.5.4 STEEL REINFORCEMENT:** Shall be standard deformed rebar. For #4 and smaller, $F_y = 40\text{ksi}$; for #5 and larger, $F_y = 60\text{ ksi}$. All bar laps shall be minimum 40 bar diameters.
- 1.5.5 EMBEDDED ITEMS:** Construct bolt templates and precisely set antenna anchor bolts.
- 1.5.6 CONCRETE MATERIALS:** Shall be ready-mix. $F_c = 3,000\text{ psi}$ minimum at 28 days; slump = 2" to 4"; air entrainment is not required. The Design/Build Contractor shall provide documentation and evidence of type of concrete used.
- 1.5.7 CONCRETE PLACEMENT:** In caissons, place in lifts not exceeding 12", with mechanical vibration.
- 1.5.8 CONCRETE FINISH:** Top of caissons and tower slab shall be dead-level. Caissons, equipment pads and sidewalks shall have light broom finish. Exposed sides of caissons shall have sack-rubbed finish.
- 1.5.9 CONCRETE WASH-OUT:** All concrete wash-out debris must be properly collected and taken off site for disposal.
- 1.6 MASONRY:** None
- 1.7 METALS:**
- 1.7.1 CABLE TRENCH COVER:** Shall consist of galvanized angle side frames with concrete anchor studs or lugs; and traffic-rated, galvanized steel grating approximately 20" wide.
- 1.7.2 WORK PLATFORM & ACCESS BRIDGE PRIMARY FRAMING MEMBERS:** Shall be structural steel sections with hot-dipped galvanized finish. The towers and work platform are independent not attached to one another.
- 1.7.3 SECONDARY FRAMING MEMBERS:** Shall be a minimum of 16 gage hot-rolled galvanized C-sections.

- 1.7.4 STEEL DECKING:** Shall be galvanized steel hot-rolled interlocking safety grating capable of supporting a 100 lb. psf live load; 1.5” channel height is preferred to retain side safety toe kick rail clearance. Provide Grate-Lock #MG91514 or #MG61518, or approved equal. If 2.5” channel height is provided, use Grate-Lock #MC122518, or approved equal.
- 1.7.5 SAFETY RAILING:** Must be steel. It shall be minimum 42” high above work surface, withstand a 200 pound static force along the top rail at all points, and be painted safety yellow color. Provide along all edges of access bridge and work platform with removable railing along south side of tower assemblies.
- 1.8 WOOD & PLASTICS:** None
- 1.9 THERMAL & MOISTURE PROTECTION:** None
- 1.10 DOORS & WINDOWS:** None
- 1.11 FINISHES**
- 1.11.1 EXTERIOR PAINTING:** Provide field touch-up of any damaged or cut steel sections with two coats of Cold-Galv or approved equal. Hand rails shall be painted bright safety yellow with two coats of Rustoleum exterior enamel, or approved equal by Arcata Project Manager.
- 1.12 SPECIALTIES:** None
- 1.13 EQUIPMENT**
- 1.13.1 CRANK-UP ANTENNA TOWERS:** Erect six each Government-furnished/Contractor-installed crank-up towers model #HDX-689, manufactured by U.S. Tower Corporation of Visalia, CA. Set on top of caisson foundations, and install in accordance with the Manufacturer’s published installations. The towers are designed by the manufacturer to be capable of being lowered away from the work platform to a position where they are laying on the ground. This installation is to be done maintaining this capability.
- 1.13.2 ANTENNA CABLE RETRACTOR UNITS:** Erect six each Contractor-designed/Arcata-approved RF cable retractor systems. Arcata technicians will install the antenna cables.
- 1.14 SPECIAL CONSTRUCTION:** See 1.13.2
- 1.15 MECHANICAL:** See 1.13.1
- 1.16 ELECTRICAL**

- 1.16.1 GENERAL:** All electrical work shall comply with the National Electric Code, latest edition. All breakers and associated equipment will be supplied by the DBC to be connected to the existing breaker panels in building 4720.
- 1.16.2 CONDUIT:** All circuits shall be installed in electrical metallic tubing (EMT), except connections to motors and vibrating or movable equipment and structures shall be in flexible water-proof metallic conduit, all minimum 3/4" diameter. 2" buried conduit to cable retractor units, 2 runs to each, with risers.
- 1.16.3 BOXES:** Vendor shall provide one AC outlet above work surface for each antenna tower. All external boxes shall be NEMA 3R weatherproof.
- 1.16.4 CONDUCTORS:** Shall be THHN or TWHN, minimum #12 AWG.
- 1.16.5 ANTENNA CABLE TRAYS:** Shall be galvanized steel or non-metallic, 18" wide by 12" deep, with support and connection system to the work platform and bridge structure, below the deck grating. Provide wide-sweep tee where the access bridge meets the work platform. Cable tray will be mounted beneath bridge and work platform as per drawing A.2.
- 1.16.6 CONNECT UP ANTENNA TOWER HOIST MOTORS:** GFE antennas are furnished with attached GFE electric hoist motors, 120 volt. The Contractor shall provide weather-proof 20 amp commercial grade duplex receptacles (GFCI) mounted on a riser adjacent to each towers motor.
- 1.16.7 GROUNDING SYSTEM:** The Design/Build Contractor (DBC) shall design a grounding system that uses either UFER grounds in the concrete foundation, or driven ground rods. Each of the antenna towers, the work platform and bridge, and each of the retractor cable units must be direct grounded with bare copper cable, size TBD.
- 1.16.8 LIGHTING FIXTURES:** The DBC shall design and provide a system of outdoor light fixtures to provide safety platform lighting and emergency maintenance lighting. UL listed outdoor floodlight fixtures that will accept medium base compact fluorescent screw in type bulbs. Two lights illuminating each tower, mounted to the catwalk, switchable from the catwalk and inside bldg. 4720.
- 1.16.9 LIGHTNING PROTECTION:** See 1.16.7

1.17 DESIGN SERVICES

- 1.17.1 REQUIRED SERVICES:** The DBC shall perform the services required to deliver the submittals indicated in Table 15.1 as the "Basic Contract". Also, the DBC shall perform the services required to deliver the submittals indicated in Table 15.1 as the "Option" after receipt of notice to proceed to that level. The DBC shall accomplish these services so as to permit award of construction contracts at a price that does not exceed the total budget estimate shown in Table 1.1. The DBC shall deliver the design submittals in type, quantity, and days as

indicated in Table 15.1. The delivery schedule is shown in calendar days.

C.2 MILESTONE SCHEDULE

The following indicate Arcata's desired dates for program milestones. The contractor shall provide a proposed milestone schedule in their proposals.

Table 15.1

Services and Design Submittals	Basic Contract	Option	Tentative Delivery Schedule
15% Concept Study – To be submitted as 1 original, 6 hard copies and 2 CD's.	X		30 days after receipt of notice to proceed.
30% Early Preliminary Design - To be submitted as 1 original, 6 hard copies, and 2 CD's.	X		30 days after receipt of notice to proceed to 30%.
60% Preliminary Design - To be submitted as 1 original, 6 hard copies and 2 CD's.	X		30 days after receipt of notice to proceed to 60%.
90% Advance Final Design - To be submitted as 1 original, 6 hard copies and 2 CD's.	X		30 days after receipt of notice to proceed to 90%.
100% Final Design - to be submitted as 1 original, 6 hard copies and 2 CD's.	X		15 days after receipt of notice to proceed to 100%.
Post Design Construction	X		Up to facility acceptance date

2.1 COMPLIANCE: The DBC shall provide a design that complies with the latest editions of the following:

- International Building Code.
- International Mechanical Code.
- International Plumbing Code.
- International Energy Conservation Code
- National Electrical Code.
- National Fire Code (NFPA).
- Section 01411D General Safety Requirements.
- Section 01010 Standard Requirements.

2.2 INCORPORATION: The DBC shall incorporate in the design the requirements of the following:

- NASA Forms 1509/1510 Facility Project Brief Project Document and the Facility Requirements Document (FRD).
- NASA Facility Project Implementation Handbook (NPR 8820.2E)
- NASA Safety Standard for Fire Protection (NASA-STD-8719.11)

- The NASA Safety Manual (NASA NPR 8715.3)
- DFRC Safety Manual (DCP-S-021 through 030)
- 29CFR1910 and 1926
- US Army Corp of Engineers Safety and Health Requirements Manual (EM 385-1-1)
- 10 C.F.R. Part 435 and State of California Title 24, Building Energy Efficiency Standards
- EPA, CAL/EPA, Kern County, and DOT regulations
- FEMA-368, 2000 HEHRP Recommended Provisions for New Building and Other Structures
- Executive Order 13123, Green the Government Through Efficient Energy Management
- Executive Order 12114, Environmental Effects Abroad of Major Federal Actions
- National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4321-4347
- 12CFR Part 1216, Environmental Quality
- NPG 8580.01, NASA Procedures and Guidelines for Implementing NEPA and Executive Order 12114

The publications listed above present the requirements, criteria, and guidelines for the adequate design of and safe facility work on facility systems. Facility systems include structural, electrical, mechanical, plumbing, utility, and fire protection systems. If any of these publications or parts thereof does not pertain to this project, the DBC shall disregard those sections.

2.3 ENVIRONMENTAL: The National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) require federal facilities to determine the impacts of construction to the environment. The DBC shall develop all required NEPA and CEQA documents during the planning and design phase to ensure compliance with NEPA and CEQA. In addition, the following regulations shall be considered during the planning and design process:

- National Historic Preservation Act Section 106 Consultation
- Endangered Species Act Section 7 Consultation
- Comprehensive Environmental Response, Compensation & Liability Act (CERCLA)
- Superfund Amendment Reauthorization Act (SARA)
- Resource Conservation and Recovery Act (RCRA)

If any of these regulations do not impact this project, the DBC shall so state in the Design Analysis Report.

2.4 LABOR REQUIREMENTS

2.4.1 DAVIS-BACON ACT: The Davis-Bacon Wage Determinations are wage determinations issued by the U.S. Department of Labor under the *Davis-Bacon*

and related Acts. The Wage and Hour Division of the U.S. Department of Labor determines prevailing wage rates to be paid on federally funded or assisted construction projects. It is the responsibility of the federal agency that funds or financially assists Davis-Bacon covered construction projects to ensure that the proper Davis-Bacon wage determination(s) is/are applied to such construction contracts(s). (See [29 CFR 1.5](#) and [1.6\(b\)](#))

C.3 SERVICE AND DESIGN SUBMITTALS: The DBC shall provide services and design submittals as described in the following sections:

3.1 THE 15% CONCEPT STUDY: When indicated in Table 15.1, the DBC shall provide a 15% submittal called Concept Study.

3.2.1 THE 30% EARLY PRELIMINARY DESIGN: When indicated in Table 15.1, the DBC shall provide a 30% submittal called Early Preliminary Design. The Early Preliminary Design shall consist of the Design Analysis Report (95% complete), the Engineering Calculations (30% complete), the Construction Drawings (30% complete), the Construction Specifications (List of applicable sections and titles only), and a Cost Estimate (Budgetary). These shall be presented as a narrative brochure-type presentation as described in Section_C.6, with sufficient drawings, sketches, tabulations, and photographs to illustrate items or details which cannot be adequately described in narrative form. Arcata review comments of the Early Preliminary Design shall not be considered a change in the contract unless a significant change in scope is involved. The DBC shall provide an Early Preliminary Design that fulfills its intended purposes. The purpose of the Early Preliminary Design for Arcata is as follows:

3.2.2 FUNCTIONAL REQUIREMENTS: To provide only sufficient design information for Arcata to determine the acceptability of the proposed facility as meeting its functional requirements for operational use and economical maintenance during the anticipated life of the facility.

3.2.3 SUFFICIENCY AND SOUNDNESS: To provide Arcata sufficient data for a determination of the engineering sufficiency and soundness of the basic approach to the design for each technical discipline. Also, it will serve as a documentary check that the designer has been provided or has developed the essential engineering criteria necessary for all facets of final computations and detailed development of a thoroughly engineered, coordinated, economical and functional design.

3.2.4 THE 60% PRELIMINARY DESIGN: When indicated in Table 15.1, the DBC shall provide a 60% submittal called the Preliminary Design. The Preliminary Design shall consist of the Design Analysis Report (100% complete), the Engineering Calculations (90% complete), the Construction Drawings (90% complete for all sheets), the Construction Specifications (all sections present and 75% edited). These shall be presented as a narrative brochure-type presentation

as described in Section_C.6. The 60% submittal shall include complete revisions and corrections occasioned by Arcata's review of the 30% submittal.

3.2.5 FINAL DESIGN: When indicated in Table 15.1, the DBC shall provide a 90% submittal called the Advance Final Design for review prior to furnishing a 100% submittal called the Final Design.

3.2.6 THE ADVANCE FINAL DESIGN 90%: The advance Final Design shall consist of the finished Design Analysis Report, the finished Engineering Calculations, the finished Construction Drawings, and the finished Construction Specifications. These shall be presented as a narrative brochure-type presentation as described in Section C.6. The 90% submittal shall include complete revisions and corrections occasioned by Arcata's review of the 30% and 60% submittals. The marked draft of the Construction Drawings and Construction Specifications from the 30% and 60% submittals shall be returned and submitted with the 90% submittal.

C.4 REQUIREMENTS FOR DESIGN DOCUMENTS

4.1 REQUIREMENTS FOR DESIGN DOCUMENTS: Except when specifically exempted, the DBC shall include the 30%, 60%, 90%, and 100% submittals the following documents:

- Design Analysis Report
- Engineering Calculations
- Construction Drawings
- Construction Specifications

C.5 GENERAL REQUIREMENTS

5.1 PERFORMANCE OF WORK: The DBC shall provide sufficient technical supervisory and administrative personnel at all times to ensure execution of the work in accordance with the delivery schedule.

5.2 PROJECT MANAGER: The DBC shall appoint a Project Manager to serve as a single point of contact and liaison between the DBC and Arcata for all work required under the contract for each project. The project manager shall be responsible for the complete coordination of all project work developed under the contract. The project manager shall ensure that all project work is accomplished with adequate internal controls and review procedures, which eliminate conflicts, errors, omissions, ensure the technical accuracy of all designs, drawings, specifications and construction.

5.3 MEETINGS: The DBC shall attend and participate in periodic meetings as requested by the contracting officer for discussion of questions and problems relating to the work required under the contract.

5.4 TRAVEL: All travel, costs and expenses incurred by the DBC, including

consultants for such site visits, inspections, and investigations are to be included in the lump sum price of this contract.

- 5.5 NON-DESTRUCTIVE TESTING:** The DBC shall provide technicians, tools, and equipment necessary to inspect and test existing facilities; this includes entering crawl spaces, removing electrical panels, verifying topographic information, verifying utilities, and taking measurements. Nondestructive testing includes correcting all systems to pre-test conditions so that the performance of any system is not adversely affected. This includes the following examples: replacing and compacting subsoil, replacing concrete, patching roof membranes where samples were taken, replacing electrical panel covers, and ensuring all disturbed electrical connections are continuous.
- 5.6 INTERFERENCE:** The DBC shall ensure that construction activities do not interfere with normal facility operations through effective coordination with the Arcata Project Manager. During space shuttle operations the DBC shall not perform any construction activities that will interfere with radar or telemetry operations.
- 5.7 ASBESTOS AND LEAD PAINT:** Arcata will provide asbestos and lead paint surveys.
- 5.8 INITIATION OF WORK:** The DBC shall not proceed or initiate any work of any successor design level of the work required under paragraph 1.2 prior to receipt of approval of the preceding design level and notice to proceed.
- 5.9 DESERT TORTOISE:** The DBC shall incorporate in the design protective measures for the Desert Tortoise when the project has an impact on the Desert Tortoise species or its habitat.
- C.6 FORMAT AND CONTENT OF SUBMITTALS:** The DBC shall use the following outline, format, and content for the 30%, 60%, 90%, and 100% design submittals. The design submittal is a narrative and graphic brochure-type presentation, reflecting a designer's interpretation of criteria furnished or that which he has

SECTION D

PACKAGING AND MARKING

D.1 PACKAGING AND MARKING

The following is not required unless delivery is made.

(a) The Supplier shall preserve, pack, and mark for shipment all items deliverable under this Purchase Order in accordance with good commercial practices and to ensure both acceptances by common carrier and safe transportation at the most economical rate(s).

(b) The Supplier's markings on shipping containers shall be clearly legible from a distance of 36 inches. The Supplier may mark by stencil, rubber stamp, or lacquer over a coated gummed label.

D.2 Shipping instructions, not provided elsewhere herein, will be furnished by Arcata or their duly authorized representative. The Supplier shall request non-provided shipping instructions from Arcata no later than seven (7) days prior to the date the item(s) are ready for shipment.

D.3 The cognizant Transportation Officer for this Purchase Order is Anne Crowell, Arcata Procurement.

D.4 The Supplier shall use carriers that offer acceptable service at reduced rates when available. The Supplier shall contact the cognizant Transportation Officer when assistance is required.

D.5 Three (3) copies of a packing list shall be provided for "each shipment" as required under the provisions of this Purchase Order. Two (2) copies shall be provided inside and one (1) copy attached to the outside of shipping container number 1.

D.6 All boxes, crates, containers, etc. shall be clearly marked and annotated as "1 of x"; "2 of x"; "3 of x", etc. for each shipment.

(End of Clause)

(END OF SECTION)

SECTION E

INSPECTION AND ACCEPTANCE

E.1 The place of final inspection and acceptance for the services and deliverable hardware, software, reports and documentation called for under this Purchase Order shall be Arcata Associates, Inc. (Arcata), Building 4876, Warehouse 6, Dryden Flight Research Center, Edwards, CA 93523, or at sites requiring the deliverable, or for specific items, when so directed by Arcata or their duly authorized representative, the Supplier's plant. Inspection and acceptance will be accomplished by the Arcata authorized representative.

E.2 This Purchase Order incorporates the following clauses by reference, with the same force and effect as if they were given in full text. Without limiting conditions of any other part herein, the following contract clauses contained in the Federal Acquisition Regulation (FAR), as amended, are incorporated herein and made a part hereof by this reference. Where necessary to make the context of these clauses applicable to this Purchase Order, the term "contractor" shall mean "Supplier", the term "contract" shall mean "this Purchase Order", and the terms "Government", "Contracting Officer" and equivalent phrases shall mean "Arcata" or "Buyer". All referenced clause numbers refer to the current clauses and revisions in effect as of the date of this Purchase Order. All references to "Disputes" contained in any of the below clauses are hereby deleted in their entirety. (NOTE: Only those clauses indicated by (X) apply to this Purchase Order.)

CLAUSE NO.	CLAUSE TITLE	DATE
(X) 52.246-1	Contractor Inspection Requirements	(APR 1984)
(X) 52.246-2	Inspection of Supplies-Fixed Price	(AUG 1996)
() 52.246-3	Inspection of Supplies-Cost Reimbursement	(MAY 2001)
(X) 52.246-4	Inspection of Services-Fixed Price	(AUG 1996)
() 52.246-5	Inspection of Services-Cost Reimbursement	(APR 1984)
(X) 52.246-16	Responsibility For Supplies	(APR 1984)

E.3 INSPECTION: (a) The Supplier shall comply with any specifications stated on the face of, or included by reference in, or attachment to this Purchase Order and with applicable specifications. Supplier shall provide and maintain an inspection system acceptable to Arcata. The Supplier shall, upon request, furnish Arcata with a report of details of material and workmanship inspections, certified by an authorized representative of the Supplier.

(b) Arcata and representatives of Arcata's customers shall have the right to inspect and test all material and workmanship at all times and places including, when practicable, during manufacture, and if any such inspection or test is made on the

premises of the Supplier or subcontractor, the Supplier shall furnish and require its subcontractors to furnish without additional charge, all reasonable facilities and assistance for a safe and convenient inspection or test.

(c) Arcata shall have the right, exercisable within ninety (90) days of the receipt by it of the goods called for, to reject after inspection any of such goods which are defective. All such rejected items shall be returned to the Supplier transportation collect, for credit or refund and shall not be replaced by the Supplier except upon written instructions from Arcata.

E.4 WARRANTY: Notwithstanding the provisions called out at FAR 52.246-3 entitled "Inspection of Supplies – Cost Reimbursement", the following warranty shall apply to this Purchase Order:

Notwithstanding inspection and acceptance by Arcata or any provisions of this Purchase Order concerning conclusiveness thereof, the Supplier warrants that the items covered by this Purchase Order will conform to the specifications, drawings, samples, or other descriptions furnished or specified by Arcata, and further warrants, that for a period of no less than one year from the date of final acceptance by Arcata, except for latent defects, such items will be fit and sufficient for the purpose intended, merchantable, of good material and workmanship, and free from defect. Supplier agrees that within such warranty period to repair or replace all items or parts of items covered by this Purchase Order which are within the specified period. The warranties and remedies provided for in this Condition and the Condition hereof entitled "Inspection" shall not be exclusive and are in addition to any other rights and remedies provided by law, under this Purchase Order.

E.5 QUALITY PROGRAM: The Supplier shall maintain a Quality Assurance Program which will assure that all supplies and services provided under this Purchase Order meet quality levels consistent with industry accepted practices, or as specified by work directive or elsewhere in this Purchase Order.

E.6 ACCEPTANCE: Acceptance shall be upon demonstration by the contractor that all technical requirements of the Statement of Work have been accomplished; required end to end acceptance testing has been successfully completed, witnessed and signed for by authorized Arcata authorized personnel or representative, and any discrepancies corrected.

(END OF SECTION)

SECTION F

DELIVERIES OR PERFORMANCE

F.1 PLACE OF PERFORMANCE:

Bldg. 4720 at the National Aeronautics and Space Administration (NASA) Dryden Flight Research Center, Edwards AFB, 93523-0273

F.2 PERFORMANCE PERIOD:

The period of performance period for this contract shall be 200 days after Notice to Proceed (NTP).

F.3 FAR CLAUSES BY REFERENCE

This Purchase Order incorporates the following clauses by reference, with the same force and effect as if they were given in full text. Without limiting conditions of any other part herein, the following contract clauses contained in the Federal Acquisition Regulation (FAR), as amended, are incorporated herein and made a part hereof by this reference. Where necessary to make the context of these clauses applicable to this Purchase Order, the term "contractor" shall mean "Supplier", the term "contract" shall mean "this Purchase Order", and the terms "Government", "Contracting Officer" and equivalent phrases shall mean "Buyer". All referenced clause numbers refer to the current clauses and revisions in effect as of the date of this Purchase Order. All references to "Disputes" contained in any of the below clauses are hereby deleted in their entirety. (NOTE: Only those clauses indicated by (x) apply to this Purchase Order.)

CLAUSE NO.	CLAUSE TITLE	DATE
() 52.211-17	Delivery of Excess Quantities	(SEP 1989)
(X) 52.242-15	Stop-Work Order	(AUG 1989)
(X) 52.242-17	Government Delay of Work	(APR 1984)
() 52.247-29	F.O.B. Origin	(FEB 2006)
() 52.247-31	F.O.B. Origin, Freight Allowed	(FEB 2006)
() 52.247-32	F.O.B. Origin, Freight Prepaid	(FEB 2006)
(X) 52.247-34	F.O.B. Destination	(NOV 1991)

(END OF SECTION)

SECTION G

SUBCONTRACT ADMINISTRATION DATA

G.1 AUDIT: (a) The Supplier agrees that its books and records and its plant, or such parts thereof as may be engaged in the performance of this Purchase Order shall at all reasonable times be subject to inspection and audit by an authorized representative of and Department of the United States Government.

(b) Supplier agrees that if a claim is filed on any termination of this Purchase Order for the convenience of the Buyer or the United States Government, Supplier's books and records and its plant, or such part thereof as may be engaged in the performance of this Purchase Order, shall at all reasonable times be subject to inspection and audit by an authorized representative of the Buyer.

G.2 ARCATA REPRESENTATIVE: Day to day supervision and technical direction of this Purchase Order will be the responsibility of the Arcata Associates, Inc. Project Manager, who shall be named at the time of Purchase Order award. Any issue relating to the Purchase Order terms, conditions, prices, or changes in the quantity or Scope of Work will remain the responsibility of Arcata Associates, Inc. Procurement.

G.3 BILLING INSTRUCTIONS: Invoices shall be submitted to the Arcata Associates, Inc. office shown on the cover page of this Purchase Order. Invoices must include the Purchase Order number, invoice, date, amount, payment address and sufficient detail to allow for verification. Invoices shall be submitted upon contract completion (circuit acceptance).

Invoices will include recurring and non recurring charges. Billing will take place 30 days in arrears.

G.4 COGNIZANT AUDIT AGENCY: The cognizant audit authority for work performed under this Purchase Order is the Defense Contract Audit Agency.

G.5 COMPLIANCE: (a) Supplier shall comply with all applicable Federal, State, or local laws, ruling, regulations, and orders pertaining thereto in effect on the date of this Purchase Order.

(b) The Supplier shall warrant that the goods called for by this Purchase Order have been or will be produced in compliance with the Fair Labor Standards Act of 1938 (29 U.C. Code 201-219) and any amendments thereto and insofar as applicable to this Purchase Order, the Walsh-Healey Public Contracts Act (41 U.S. Code 35-45) and any amendments thereto, as well as with the provision of an other Federal Law with respect to labor relations, minimum wages and hours of employment, now in effect or hereafter enacted, including Contract Work Hours Standard Act (4 U.S. Code 327-330), P.L. 87-581 Work Hours Act of 1962 – Overtime Compensation, and with any and all rules and regulations issued under each and every such act. The Supplier agrees that this

warranty may be considered as the certificate contemplated by the amendment dated October 26, 1949, to the Fair Labor Standards Act of 1938.

G.6 COST PRINCIPLES-INDEMNITY: The Supplier recognizes that this Purchase Order is issued under a prime contract or higher-tier subcontract requiring that cost be in accordance with Part 30 of the Federal Acquisition Regulation in effect on the date of the prime contract, and the Supplier hereby indemnifies and agrees to hold the Buyer harmless from and against any and all disallowance or non recognition of cost or costs under said prime contract or higher-tier subcontract arising, directly or indirectly because of any cost or costs taken into consideration in the pricing of this Purchase Order or any price adjustments pursuant to the Condition hereof entitled "Changes" or any other provision of this Purchase Order or taken into consideration in determining any payments or settlement agreements under the "Termination" clauses hereof, that are not in accordance with the aforementioned Part 30.

G.7 PRICE WARRANTY: The Supplier warrants that the prices of items set forth herein do not exceed those charged by the Supplier to any other customer purchasing the same item in like or smaller quantities under similar circumstances.

G.8 SUBCONTRACT AND PURCHASE ORDER ACCEPTANCE: (a) Supplier's commencement of work or shipment of deliverable articles, whichever occurs first, shall be deemed an effective mode of acceptance of Buyer's offer to purchase contained in this Purchase Order. Any acceptance of this subcontract or order is limited to acceptance of express terms of the offer contained herein.

(b) Any proposal for additional or different terms, or any attempt by Supplier to vary any of the terms of this offer in Supplier's acceptance is hereby objected to and rejected. Such proposal shall not operate as a rejection of this offer unless such variances are in the terms of the description, quantity, price or delivery schedule; but shall be deemed a material alteration thereof, and this offer shall be deemed accepted by Supplier without said additional or different terms.

(c) If this Purchase Order shall be deemed and acceptance of a prior offer by Supplier, such acceptance is limited to the express terms contained herein. Additional or different terms or any attempt by Supplier to vary in any degree any of the terms of this Purchase Order shall not operate as a rejection of the Supplier's offer unless it contains variances in the terms of the description, quantity, price or delivery schedule of the articles or services.

G.9 OUTAGE CREDITS: Credit for unauthorized downtime experienced by Arcata Associates, Inc. must be received within two (2) billing cycles after occurrence.

(END OF SECTION)

SECTION H

SPECIAL SUBCONTRACT REQUIREMENTS

H.1 Personal Identity Verification of Contractor Personnel. (FAR 52.204-9)(Nov 2006)

(a) The Contractor shall comply with agency personal identity verification procedures identified in the contract that implement Homeland Security Presidential Directive-12 (HSPD-12), Office of Management and Budget (OMB) guidance M-05-24, as amended, and Federal Information Processing Standards Publication (FIPS PUB) Number 201, as amended.

(b) The Contractor shall insert this clause in all subcontracts when the subcontractor is required to have routine physical access to a Federally-controlled facility and/or routine access to a Federally-controlled information system.

(c) CARD ISSUANCE PROCEDURES

IAW FAR clause 52.204-9, Personal Identity Verification of Contractor Personnel

FIPS 201 Appendix A graphically displays the following procedure for the issuance of a PIV credential.

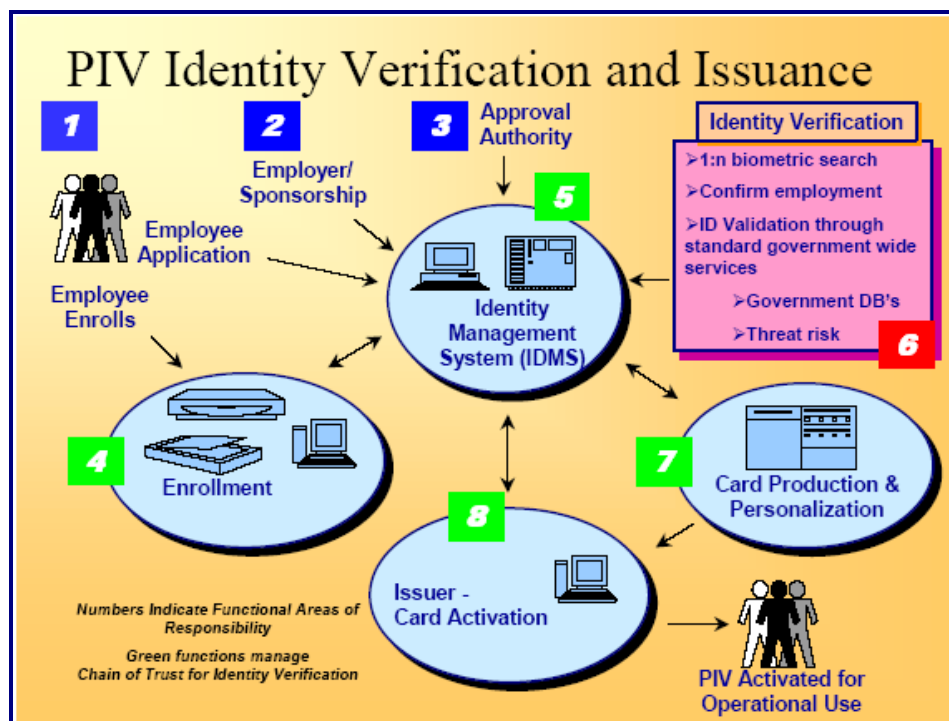


Figure A-1, FIPS 201, Appendix A

The following steps describe the procedures for the NASA Personal Identity Verification Card Issuance (PCI) of a PIV credential:

Step 1:

The Contractor's Corporate Security Officer (CSO), Program Manager (PM), or Facility Security Officer (FSO) submits a formal letter that provides a list of contract employees (applicant) names requesting access to the Program Manager (PM). In the case of a foreign national applicant, approval through the NASA Foreign National Management System (NFMMS) must be obtained for the visit or assignment before any processing for a PIV credential can take place. Further, if the foreign national is not under a contract where a PM has been officially designated, the foreign national will provide the information directly to their visit/assignment host, and the host sponsor will fulfill the duties of the PM mentioned herein. In each case, the letter shall provide notification of the contract or foreign national employee's (hereafter the "applicant") full name (first, middle and last), social security number (SSN) or NASA Foreign National Management System Visitor Number if the foreign national does not have a SSN, and date of birth. If the contract employee has a current satisfactorily completed National Agency Check with Inquiries (NACI) or an equivalent or higher degree of background investigation, the letter shall indicate the type of investigation, the agency completing the investigation, and date the investigation was completed. Also, the letter must specify the risk/sensitivity level associated with the position in which each applicant will be working (NPR 1600.1, §4.5 is germane) Further, the letter shall also acknowledge that contract employees may be denied access to NASA information or information systems based on an unsatisfactory background investigation/adjudication.

After reviewing the letter for completeness and concurring with the risk/sensitivity levels, the PM host must forward the letter to the Center Chief of Security (CCS). The CCS shall review the OPM databases (e.g., DCII, PIP, et al.), and take appropriate steps to validate the applicant's investigation status. Requirements for a NACI or other investigation shall be initiated only if necessary.

Applicants who do not currently possess the required level of background investigation shall be directed to the e-QIP web site to complete the necessary background investigation forms online. The CCS shall provide to the COTR/host information and instructions on how to access the e-QIP for each contract or foreign national employee requiring access

Step 2:

Upon acceptance of the letter/background information, the applicant will be advised that in order to complete the investigative process, he or she must appear in-person before the authorized PIV registrar and submit two forms of identity source documents in original form. The identity source documents must come from the list of acceptable documents included in Form I-9, Employment

Eligibility Verification, one which must be a Federal¹ or State issued picture identification. Fingerprints will be taken at this time. The applicant must appear no later than the entry on duty date.

¹ A non-PIV government identification badge, including the NASA Photo Identification Badge, MAY NOT BE USED for the original issuance of a PIV vetted credential

When the applicant appears, the registrar will electronically scan the submitted documents; any document that appears invalid will be rejected by the registrar. The registrar will capture electronically both a facial image and fingerprints of the applicant. The information submitted by the applicant will be used to create or update the applicant identity record in the Identity Management System (IDMS).

Step 3:

Upon the applicant's completion of the investigative document, the CCS reviews the information, and resolves discrepancies with the applicant as necessary. When the applicant has appeared in person and completed fingerprints, the package is electronically submitted to initiate the NACI. The CCS includes a request for feedback on the NAC portion of the NACI at the time the request is submitted.

Step 4:

Prior to authorizing physical access of a contractor employee to a federally-controlled facility or access to a Federal information system, the CCS will a National Crime Information Center (NCIC) with an Interstate Identification Index check is/has been performed. In the case of a foreign national, a national check of the Bureau of Immigration and Customs Enforcement (BICE) database will be performed for each applicant. If this process yields negative information, the CCS will immediately notify the COTR/host of the determination regarding access made by the CCS.

Step 5:

Upon receipt of the completed NAC, the CCS will update IDMS from the NAC portion of the NACI and indicate the result of the suitability determination. If an unsatisfactory suitability determination is rendered, the COTR will advise the contractor that the employee is being denied physical access to all federally-controlled facilities and Federal information systems.

Based on a favorable NAC and NCIC/III or BICE check, the CCS will authorize the issuance of a PIV federal credential in the Physical Access Control System (PACS) database. The CCS, based on information provided by the COTR/host, will determine what physical access the applicant should be granted once the PIV issues the credential.

Step 6:

Using the information provided by the applicant during his or her in-person appearance, the PIV card production facility creates and instantiates the approved PIV card for the applicant with an activation date commensurate with the applicant's start date.

Step 7:

The applicant proceeds to the credential issuance facility to begin processing for receipt of his/her federal credential.

The applicant provides to the credential issuing operator proof of identity with documentation that meets the requirements of FIPS 201 (DHS Employment Eligibility Verification (Form I-9) documents. These documents must be the same documents submitted for registration.

The credential issuing operator will verify that the facial image, and optionally reference finger print, matches the enrollment data used to produce the card. Upon verification of identity, the operator will locate the employee's record in the PACS database, and modify the record to indicate the PIV card has been issued. The applicant will select a PIN for use with his or her new PIV card. Although root data is inaccessible to the operator, certain fields (hair color, eye color, et al.) may be modified to more accurately record the employee's information.

The applicant proceeds to a kiosk or other workstation to complete activation of the PIV card using the initial PIN entered at card issuance.

ALTERNATIVE FOR APPLICANTS WHO DO NOT HAVE A COMPLETED AND ADJUDICATED NAC AT THE TIME OF ENTRANCE ON DUTY

Steps 1 through 4 shall be accomplished for all applicants in accordance with the process described above. If the applicant is unable to appear in person until the time of entry on duty, or does not, for any other reason, have a completed and adjudicated NAC portion of the NACI at the time of entrance on duty, the following interim procedures shall apply.

1. If the documents required to submit the NACI have not been completed prior to EOD, the applicant will be instructed to complete all remaining requirements for submission of the investigation request. This includes presentation of I-9 documents and completion of fingerprints, if not already accomplished. If the applicant fails to complete these activities as prescribed in NPR 1600.1 (Chapters 3 & 4), it may be considered as failure to meet the conditions required for physical access to a federally-controlled facility or access to a Federal information system, and result in denial of such access.
2. Based on favorable results of the NCIC, the applicant shall be issued a temporary NASA identification card for a period not-to-exceed six months. If at the end of the six month period the NAC results have not been returned, the agency will at that time make a determination if an additional extension will be granted for the temporary identification card.
3. Upon return of the completed NAC, the process will continue from Step 5.

(End of Clause)

H.2 SECURITY REGISTRATION AND IDENTIFICATION BADGES—
CONSTRUCTION CONTRACTS (DFRC 52.204-91) (FEB 2001)

- (a) All persons engaged in work at Dryden Flight Research Center are required to be registered and badged by the Security Office, and to follow all security regulations and requirements.
- (b) The Contractor is responsible for assuring that each employee or company representative wears his/her issued identification badge at all times while they are within the boundaries Dryden Flight Research Center. Badges shall be worn above the waist in such a manner as to be clearly visible.
- (c) The Contractor shall ensure that all employees who are terminated or who are no longer connected with the work being performed under this contract are processed out through the Security Office. Badges, keys, vehicle passes/decals, and other Government property must be accounted for and returned. If a computer account has been established, the account must be deactivated.
- (d) Only U.S. Citizens and Permanent Resident Aliens will be badged by the security office. Foreign Nationals (non-immigrant aliens) WILL NOT be badged or permitted to perform on-site work on the project (other than to be escorted) until a National Agency Check has been completed.
- (e) After badging, contractor and subcontractor employees will be permitted to enter the Center and to drive by direct route from that gate to the parking area assigned to the Contractor by the Contracting Officer.
- (f) Employees of construction contractors shall turn in their badges to the Visitor Badging Office, Building 4825, when they complete working on-site.

(End of Clause)

H.3 ASSIGNMENT BY SUPPLIER: Except as herein otherwise expressly provided, neither this Purchase Order nor any interest hereunder nor any sums becoming due to the Supplier by reason hereof shall be assignable by the Supplier without the prior written consent of Arcata, provided, however, that claims for money due or to become due to the Supplier from Arcata arising out of this Purchase Order may, with written consent of Arcata, be assigned to a bank, trust company, or other financial institution, including any federal lending agency, provided that any such assignment shall conform with each of the following conditions:

- (a) Such assignment shall be duly authorized, shall cover all amounts payable under this Purchase Order and not already paid, shall not be made to more than one party, shall not be subject to further assignment and shall be subject to reduction and

set-off of any indebtedness or other claim which Arcata may have against the Supplier however and whenever arising.

(b) No such assignment shall be effective unless and until the assignee shall have filed written notice of the assignment together with a true copy of the instrument of assignment, with Arcata and with any other person entitled thereto by law, nor until the Supplier (if a corporation) shall have furnished Arcata with a certified copy of the resolution of Supplier's Board of Directors, signed by its Secretary, under the corporate seal authorizing this assignment, or (if the Supplier is not a corporation) shall have furnished Arcata with suitable documentary evidence of Supplier's authority so to assign.

(c) In no event shall copies of this Purchase Order or if any plans, specifications, or other similar documents relating to work under this Purchase Order, if marked "Top Secret", "Secret", "Confidential", or "Confidential-Modified Handling Authorized" be furnished to any assignee of any claim arising under this Purchase Order or to any other person not entitled to receive the same; provided that a copy of any part or all of this Purchase Order so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of Arcata.

H.4 ASSIGNMENT OF CONTRACT: Supplier hereby agrees to permit assignment of the order to Arcata, or to another party that may be selected by Arcata. Any such assignment will be at the sole discretion of Arcata.

H.5 CHANGES: No modification of this Purchase Order shall be binding on Arcata unless made by a formal Purchase Order Change Notice, Subcontract Modification, or Purchase Order Supplement. Arcata may at any time by written order and without notice to sureties or assignees, make changes, within the general scope of this Purchase Order, in any or more of the following: (i) drawings, designs, specifications, or other purchase descriptions, where the supplies to be furnished are to be specifically provided to Arcata in accordance therewith; (ii) method of shipping or packing, and (iii) place of delivery. If any such change causes an increase or decrease in the cost of, or the time required for the performance of any part of the work under this Purchase Order, whether changed or not changed by any such change order, an equitable adjustment shall be made in the Purchase Order's price or delivery schedule, or both, and the Purchase Order shall be modified in writing accordingly. Any claim by the Supplier for adjustment under this Requirement must be asserted within fifteen (15) days from the date of notification of the change, provided however, that Arcata may receive and act upon any such claim asserted at any time prior to final payment under this Purchase Order. Nothing in this Requirement shall excuse the Supplier from proceeding with the Purchase Order as changed.

H.6 EFFECT OF PRIOR DEALINGS: This Purchase Order is intended by Arcata and Supplier as a final expression of their agreement and is intended also as a complete and exclusive statement of the terms of this agreement. No course of prior dealings between Arcata and Supplier and no usage of the trade shall be relevant to

supplement or explain any term used in this Purchase Order. Acceptance or acquiescence in a course of performance rendered under this Purchase Order shall not be relevant to determine the meaning of this Purchase Order even though the accepting or acquiescing party has knowledge of the nature of the performance and opportunity for objection.

H.7 EXCUSABLE DELAY: The Supplier shall not be charged with any liability for failure or delay in making deliveries when such failure or delay is due to any cause beyond the control and without the fault or negligence of the Supplier. Examples of these causes are: (1) Acts of God or of the Public Enemy (2) Acts of the Government in either its sovereign or contractual capacity (3) fires (4) floods (5) epidemics (6) quarantine restrictions (7) strikes (8) freight embargo (9) unusually severe weather. In each instance, the failure to perform must be beyond the control and without the fault or negligence of the Supplier. Default includes failure to make progress in the work so as to endanger performance. The Supplier shall give to Arcata prompt notice in writing when it appears that such a cause will delay deliveries under this order. If any such failure or delay shall threaten to impair Arcata's ability to meet delivery requirements for its product, Arcata shall have the right at its option and without liability to the Supplier, to cancel, by notice in writing to the Supplier, the portion or portions of this Purchase Order so affected. Correspondingly, Arcata shall be excused for failure or delay in performance herein due to any cause beyond its control and without its fault or negligence.

H.8 INVALIDITY/WAIVERS/REMEDIES: The invalidity in whole or in part of any Requirement of this Purchase Order shall not affect the validity of the other Requirements. The remedies herein reserved shall be cumulative and additional to any other remedies in law or in equity. No waiver of a breach of any provision of this Purchase Order shall constitute a waiver of the breach of any other provision of this or any other Purchase Order.

H.9 MATERIALS AND EQUIPMENT: (a) If provision is made on the face of this Purchase Order for the furnishing by Arcata to the Supplier of any Arcata or Government owned materials to be used in connection with the performance of this Purchase Order, such materials will be delivered to the Supplier in sufficient time to enable it to meet the delivery dates for the articles to be furnished to Arcata under this Purchase Order. In the event that any such materials are not delivered to the Supplier in sufficient time, the resultant delay of the Supplier in delivering to Arcata the articles called for under this Purchase Order shall be an excusable one under the provisions of the Requirement hereof entitled "Excusable Delay". Arcata shall have no liability to the Supplier by reason of any delay in delivery, or failure to deliver, such materials; provided, however, that if as a result of such delay or failure, Arcata shall terminate this Purchase Order, it shall be terminated for the convenience of Arcata.

(b) Title to any materials furnished by Arcata or the Government to the Supplier shall remain in Arcata or the Government, respectively. The Supplier is directed not to carry insurance (nor to include the premiums thereon as an element in the price of the

articles to be furnished to Arcata) against loss or damage to Arcata's or the Government's interest in such materials by reason of fire, extended coverage, riot or civil commotion. The risk of loss or damage to such materials from any other cause from the time of delivery to the Supplier to the time of redelivery to Arcata shall be borne by the Supplier.

(c) The Supplier shall not be required to account to Arcata for the proceed from the sale of scrap generated during the performance of this Purchase Order by the processing of materials furnished by Arcata, provided, however, that the Supplier shall replace by purchase from Arcata at Arcata's prices then current any materials lost or damaged because of spoilage, breakage, or defective workmanship in excess of any allowance made therefore by Arcata. Upon completion of this Purchase Order any of the materials furnished by Arcata and not consumed in performance of the Purchase Order shall be disposed of in accordance with instructions from Arcata.

(d) Nothing in this Requirement shall apply to machinery, tools, or other capital equipment which may have been loaned or leased by Arcata or the Government to the Supplier.

(e) When Arcata or the Government furnished any material, in whole or in part, for the manufacture of parts or assemblies, the Supplier shall not substitute material from any other source nor shall the Supplier alter its physical or chemical properties except in accordance with applicable Arcata specifications or except with Arcata's written approval.

H.10 OTHER RIGHTS AND REMEDIES AND APPLICABLE LAW: The rights and remedies herein reserved to Arcata shall be cumulative and additional to any other or further rights and remedies provided in law or equity and all the rights and obligations of the parties shall be governed and construed by the laws of the State of Alabama and the United States.

H.11 PATENT/COPYRIGHT INDEMNITY: (a) The Supplier agrees to indemnify and hold harmless Arcata and each subsequent purchaser or user of the goods sold to Arcata under this Purchase Order, except as to goods manufactured according to a design furnished by Arcata, from any suit or action alleging that the manufacture, use or sale of said goods infringes any United States or a foreign country's patent or copyright. Arcata agrees to give the Supplier notice of any such suit or action promptly after notice is received by Arcata and the Supplier agrees to conduct, at its own expense, the entire defense thereof, provided; however, that Arcata may, at its own election and expense, at any time supersede the Supplier in any such defense in which event the Supplier shall thereby be released from its obligation under this Requirement.

(b) If this Purchase Order indicates that it is placed under a United States Government contract, the indemnification set forth in this Requirement's (a) above shall extend to the United States of America only if and to the extent that the United States of America is indemnified by Arcata.

H.12 RELEASE OF INFORMATION AND ADVERTISING: Supplier shall not without prior written consent of Arcata, make any disclosure, news release or public announcement, denial or confirmation of same, of any part of the subject matter of this Purchase Order or in any manner advertise or publish the fact that Supplier has supplied or contracted to supply to Arcata the items mentioned herein except as may be required to perform this Purchase Order.

H.13 RELIANCE: Notwithstanding any first article approvals, design approvals, drawing approvals, bench mark approvals or similar actions by Arcata, if goods or services ordered are to be furnished or performed in accordance with a specification containing performance, functional or design requirements or indicating any particular purpose or purposes for which the goods or services are required, the Supplier represents and warrants that the Supplier is recognized as an expert in the field or fields of technology involved and the Supplier agrees that Arcata is relying on such representation and warranty by the Supplier and on the Supplier's expertise, skill and judgment to meet such requirements and to select and furnish goods or services that are fit for such particular purpose or purposes, whether expressed or reasonable implied.

H.14 RIGHT OF ACCESS: Without limitation of the inspection rights granted to Arcata under the Condition of Section E hereof entitled "Inspection", representatives of Arcata shall be granted the right of access to the Supplier's facilities at all reasonable times for purposes of determining the progress of work in process for Arcata.

H.15 SUBCONTRACTING: Supplier agrees it will not enter into a subcontract for the procurement of items covered by this Purchase Order in completed or substantially completed form without first obtaining the written approval of Arcata.

H.16 TAX EXEMPTION: This purchase is exempt from sales and use tax. Based on the California Order #74 and Public Law #319, the Federal Government is exempt from state and city taxation for purchase and rentals of personal property and supplies. Arcata will provide a copy of the State Sales Tax Exemption Certificate issued by the Government to Arcata to the successful Supplier upon request.

H.17 TITLE: All purchases made under this Purchase Order are made under National Aeronautics and Space Administration Prime Contract Number NAS4-00047. Title shall pass to the U.S. Government at the time of acceptance.

H.18 TIME IS OF THE ESSENCE: Supplier recognizes and agrees that "time is of the essence" in the performance of this Purchase Order.

H.19 CONTRACTUAL RELATIONS: For the purpose of this Purchase Order Arcata may be referred to as the "Buyer" and Proposer may be referred to as the "Supplier". The Supplier understands that there is no privity of contract between the Supplier and Arcata's customer, the U.S. Government. The Supplier is not authorized to conduct contractual matters directly with the Government concerning work being performed

under this Purchase Order. Discussions of a technical nature may be conducted between the Supplier and the Government if expressly instructed to do so by Arcata.

H.20 BRAND NAME OR EQUIVALENT: Brand Name or Equivalent products may be required in the performance of this Purchase Order. Suppliers submitting "equivalent" equipment should note that the determination as to the evaluation of the sufficiency of the equipment with regard to Arcata's intended use lies solely with Arcata. Complete descriptive literature is required for consideration by Arcata in his or her determination. Further, Arcata's evaluation may require system configuration and equipment testing at the locations required by Arcata in order to determine its suitability for use.

H.21 INSURANCE REQUIREMENTS: (a) The Subcontractor shall, as a minimum, obtain and maintain during any installation phases of the subcontract the following insurance:

1. Workmen's Compensation and Employees Liability Insurance – Minimum limit of **\$100,000.00** per accident.
2. Comprehensive General Liability Insurance – Minimum limits of **\$500,000.00** per occurrence.
3. Automobile Liability Insurance – Minimum limits of **\$200,000.00** per person and **\$500,000.00** per occurrence for bodily injury liability and **\$200,000.00** for property damage liability is required on each vehicle.

(b) The minimum insurance amount specified in paragraph (a) should not include a deductible. Notwithstanding, if there is a deductible incorporated into the terms of the insurance policy, then Arcata Associates, Inc. shall not be liable for the deductible, nor shall it be an allowable cost if paid by the Subcontractor.

(c) Prior to the commencement of work hereunder, evidence of insurance shall be furnished in a form satisfactory to Arcata Associates, Inc. In addition, the Subcontractor shall furnish evidence of a commitment by the insurance company to notify Arcata Associates, Inc. in writing of any material change, expiration, or cancellation of any of the insurance policies required hereunder not less than thirty (30) days before such change, expiration, or cancellation.

THE ABOVE REQUIREMENT ONLY APPLIES TO SERVICE OR MAINTENANCE CONTRACTS ON A GOVERNMENT FACILITY.

H.22 AVAILABILITY OF FUNDS FOR NEXT CONTRACT PERIOD: Funds are not presently available for performance under this subcontract beyond 31 July 2010 of Arcata Associates, Inc/RF&ESS contract year. Arcata Associates, Inc. obligation for performance of this contract is contingent upon the government exercising the next

option period and appropriating funds from which payment for subcontract purposes can be made. Should an option year not be exercised by the Government, Arcata Associates, Inc. shall provide written notice to the subcontractor. No legal liability on the part of Arcata Associates, Inc. for payment may arise for performance under this subcontract beyond July 31, 2010 of each contract option year, until funds are made available to Arcata Associates, Inc. from the Government Contracting Officer for continuation of performance of the contract.

(END OF SECTION)

SECTION I SUBCONTRACT CLAUSES

This Purchase Order incorporates the following clauses by reference, with the same force and effect as if they were given in full text. Without limiting conditions of any other part herein, the following contract clauses contained in the Federal Acquisition Regulation (FAR), as amended, and NASA FAR Supplement, as amended, are incorporated herein and made a part hereof by this reference. Where necessary to make the context of these clauses applicable to this Purchase Order, the term “contractor” shall mean “Supplier”, the term “contract” shall mean “this Purchase Order”, and the terms “Government”, “Contracting Officer” and equivalent phrases shall mean “Buyer”. All referenced clause numbers refer to the current clauses and revisions in effect as of the date of this Purchase Order. All references to “Disputes” contained in any of the below clauses are hereby deleted in their entirety.

CLAUSE NUMBER	DATE	TITLE
52.202-1	MAR 2001	Definitions
52.203-3	APR 1984	Gratuities
52.203-5	APR 1984	Covenant Against Contingent Fees
52.203-6	JUL 1995	Restrictions on Subcontractor Sales to the Government
52.203-7	JUL 1995	Anti-Kickback Procedures
52.203-8	JAN 1997	Cancellation, Rescission and Recovery of Funds for Illegal or Improper Activity
52.203-10	JAN 1997	Price or Free Adjustment for Illegal or Improper Activity
52.203-12	JUN 1997	Limitation on Payments to Influence Certain Federal Transactions
52.204-2	AUG 1996	Security Requirements
52.204-4	AUG 2000	Printing or Copying Double-Sided on Recycled Paper
52.204-9	SEPT 2007	Personal Identity Verification of Contractor Personnel
52.209-6	JUL 1995	Protecting the Government’s Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment
52.211-5	AUG 2000	Material Requirements
52.211-15	SEP 1990	Defense Priority and Allocation Requirements
52.215-8	OCT 1997	Order of Precedence -- Uniform Contract Format
52.215-14	OCT 1997	Integrity of Unit Prices
52.215-14	OCT 1997	Alternate I
52.215-19	OCT 1997	Notification of Ownership Changes
52.216-18	OCT 1995	Ordering
52.216-19	OCT 1995	Order Limitations
52.216-21	OCT 1995	Requirements
52.217-8	NOV 1999	Option to Extend Services
52.217-9	MAR 2000	Option to Extend the Terms of the Contract
52.219-14	DEC 1996	Limitations on Subcontracting

52.222-1	FEB 1997	Notice to the Government of Labor Disputes Insert "\$100,000.00" in paragraph (a).
52.222-3	AUG 1996	Convict Labor
52.222-4	SEP 2000	Contract Work Hours and Safety Standards Act – Overtime
52.222-6	JUL 2005	Davis-Bacon Act
52.222-7	FEB 1988	Withholding of Funds
52.222-8	FEB 1988	Payrolls and Basic Records
52.222-9	JUL 2005	Apprentices and Trainees
52.222-10	FEB 1988	Compliance with Copeland Act Requirements
52.222-11	JUL 2005	Subcontracts (Labor Standards)
52.222-12	FEB 1988	Contract Termination - Debarment
52.222-13	FEB 1988	Compliance with Davis-Bacon Act Related Act Regulations
52.222-14	FEB 1988	Disputes Concerning Labor Standards
52.222-15	FEB 1988	Certification of Eligibility
52.222-20	DEC 1996	Walsh-Healey Public Contracts Act
52.222-21	FEB 1999	Prohibition of Segregated Facilities
52.222-26	FEB 1999	Equal Opportunity
52.222-27	FEB 1999	Affirmative Action Compliance Requirements for Construction
52.222-35	SEP 2006	Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans
52.222-36	JUN 1998	Affirmative Action for Workers with Disabilities
52.222-37	JAN 1999	Employment Reports on Disabled Veterans and Veterans of the Vietnam Era
52.222-38	DEC 2001	Compliance with Veteran’s Employment Reporting Requirements
52.222-39	DEC 2004	Notification of Employee Rights Concerning Payment of Union Dues or Fees
52.222-41	MAY 1989	Service Contract Act of 1965, as Amended
52.223-3	JAN 1997	Hazardous Material Identification and Material Safety Date with Alternate I
52.223-5	AUG 2003	Pollution Prevention and Right to Know Information
52.223-6	MAR 2001	Drug-Free Workplace
52.223-9	AUG 2000	Estimate of Percentage of Recovered material Content for EPA-Designated Products
52.223-10	AUG 2000	Waste Reduction Program
52.223-14	OCT 2000	Toxic Chemical Release Reporting
52.225-13	JUL 2000	Restriction on Certain Foreign Purchases
52.227-1	JUL 1995	Authorization and Consent
52.227-2	AUG 1996	Notice and Assistance Regarding Patent and Copyright Infringement
52.227-14	JUN 1987	Right in Data --General As modified by 1852.227-14 NASA FAR Supplement (OCT 1995)
52.227-16	JUN 1987	Additional Data Requirements
52.228-2	OCT 1997	Additional Bond Security
52.228-5	JAN 1997	Insurance – Work on a Government Installation
52.228-7	MAR 1996	Insurance –Liability to Third Persons

52.228-11	FEB 1992	Pledges of Assets
52.228-12	OCT 1995	Prospective Subcontractor Requests for Bonds
52.228-15	DEC 1999	Irrevocable Letter of Credit
52.228-15	NOV 2006	Performance and Payment Bonds--Construction
52.229-3	APR 2003	Federal, State, and Local Taxes
52.229-4	APR 2003	Federal, State, and Local Taxes (State and Local Adjustments)
52.229-6	JUN 2003	Taxes-Foreign Fixed-Price Contracts
52.230-2	APR 1998	Cost Accounting Standards
52.230-3	APR 1998	Disclosure and Consistency of Cost Accounting Practices
52.230-6	APR 2005	Administration of Cost Accounting Standards
52.232-8	FEB 2002	Discounts for Prompt Payments
52.232-11	APR 1984	Extras
52.232-17	JUN 1996	Interest
52.232-22	APR 1984	Limitation of Funds
52.232-23	JAN 1986	Assignment of Claims
52.233-1	JUL 2002	Disputes
52.233-1	DEC 1991	Disputes (Alternate 1)
52.233-3	AUG 1996	Protest After Award (Alternate 1) (JUN 1985)
52.233-4	OCT 2004	Applicable Law for Breach of Contract Claim
52.236-2	APR 1984	Differing Site Conditions
52.236-3	APR 1984	Site Investigation and Conditions Affecting the Work
52.236-5	APR 1984	Material and Workmanship
52.236-6	APR 1984	Superintendence by the Contractor
52.236-7	NOV 1991	Permits and Responsibilities
52.236-8	APR 1984	Other Contracts
52.236-9	APR 1984	Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements
52.236-10	APR 1984	Operations and Storage Areas
52.236-11	APR 1984	Use and Possession Prior to Completion
52.236-12	APR 1984	Cleaning Up
52.236-13	NOV 1991	Accident Prevention
52.236-13	NOV 1991	Accident Prevention (Alternate 1) (NOV 1991)
52.236-14	APR 1984	Availability and Use of Utility Services
52.236-15	APR 1984	Schedules for Construction Contracts
52.236-17	APR 1984	Layout of Work
52.236-21	FEB 1997	Specification and Drawings for Construction
52.236-21	FEB 1997	Specification and Drawings for Construction (Alternate 1) (APR 1984)
52.236-26	FEB 1995	Preconstruction Conference
52.237-3	JAN 1991	Continuity of Services
52.242-13	JUL 1995	Bankruptcy
52.243-4	AUG 1987	Changes
52.244-2	AUG 1998	Subcontracts (Alternate 1) (AUG 1998)
52.244-5	DEC 1996	Competition in Subcontracting
52.244-6	MAR 2007	Subcontract for Commercial Items

52.245-2	JUN 2007	Government Property (Fixed-Price Contracts)
52.248-3	SEP 2006	Value Engineering--Construction
52.249-2	SEP 1996	Termination for Convenience of the Government (Fixed-Price) (Alternate 1) (SEP 1996)
52.249-10	APR 1984	Default (Fixed-Price Construction)
52.253-1	JAN 1991	Computer Generated Forms
185.204-76	JUN 1987	Security Requirements for Unclassified Information Technology Resources
1852.209-72	DEC 1988	Composition of the Contractor
1852.219-74	SEP 1990	Use of Rural Area Small Business
185.227-14	JUN 1987	Rights In Data - General
1852.227-70	MAY 2002	New Technology
1852.232-79	SEP 1987	Payment for On-Site Preparatory Costs
1852.237-70	DEC 1988	Emergency Evacuation Procedures
1852.237-72	JUN 2005	Access to Sensitive Information
1852.237-73	JUN 2005	Release of Sensitive Information

(End of Clause)

I.2 WARRANTY OF CONSTRUCTION (FAR 52.246-21)(MAR 1994)

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If Arcata Associates, Inc. takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date Arcata Associates, Inc. takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, Arcata Associates, Inc. shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of Arcata Associates, Inc., if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of Arcata Associates, Inc., if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, Arcata Associates, Inc. may bring suit at its expense to enforce a subcontractor's, manufacturers, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by Arcata Associates, Inc. nor for the repair of any damage that results from any defect in Government- furnished material or design.

(j) This warranty shall not limit Arcata's Associates, Inc. rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(End of clause)

(END OF SECTION)

SECTION J

J.1 LIST OF DOCUMENTS, EXHIBITS, AND ATTACHMENTS (ARC 52.211-90) (FEB 1997)

The following attachments are included in the contract. Representations and certifications completed by the contractor in response to this solicitation are incorporated by reference in the resulting contract at time of award.

Attach	Title	Date	No. Of Pages
A	Preliminary Drawings		
A.1	ATF 2 Top View 18 Sept 08	9/18/08	4
A.2	ATF 2 Catwalk 18 Sept 08	9/18/08	1
A.3	ATF 2 Underground	9/18/08	1
A.4	Cable Retraction Concept	9/18/08	2
B	Standard Requirements Section 01010D		8
C	General Safety Requirements Section 01411D		24
D	Soils Engineering Report	6/19/08	15
E	Requirements Checklist	11/13/08	4

Revisions to the above documents shall not be implemented without Arcata approval.

(END OF SECTION)

SECTION K

YEAR 2000 WARRANTY

Supplier warrants that each product supplied hereunder shall, in handling any calendar dates including leap years or any truncated portions thereof: within a continuous range of dates before, during and after January 1, 2000 function accurately, without interruption or premature termination, and without requiring any intervention, modification or alteration; and shall accurately process date data correctly provided by other sources in the format required by the product; and in a disclosed, defined and predetermined manner, input, accept, process, store and output 4-digit year dates and/or truncated date fields and date-related information accurately and without ambiguity, i.e., the information technology shall accurately process date data (including but not limited to, calculating, comparing, and sequencing) from, into and between the 20th and 21st centuries and the years 1999 and 2000 and leap year calculations. Notwithstanding anything to the contrary contained herein, the above warranty shall apply for as long as Supplier's product is used by Arcata and shall include, at no cost to Arcata, the correction of any errors in data or programs caused by the failure of Supplier's product to perform in conformity with such warranty.

AGREED BY (SUPPLIER)

Signature

Print name

Title

Date

SECTION K

REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENT OF SUPPLIERS

For the purposes of this solicitation, the terms Government and Contracting Officer shall refer to Arcata and the terms Contractor and Subcontractor shall apply to the Supplier. All references to "Disputes" contained in any of the below provisions are hereby deleted in their entirety.

Arcata Solicitation Number: AAI080975-08-002

Supplier's Name and Address:

DUNS Contractor Establishment No. _____

CAGE Contractor Establishment No. _____

By my signature below, I hereby certify that I am an officer or official of _____ (Organization's Name), that I have the authority to bind or certify for the above named organization, and that by signing below, I certify for that organization and its officials that the information provided by that organization in this Section K is true, current, and accurate to the best of my knowledge and belief.

(SIGNATURE)

(DATE)

(TYPED OR PRINTED NAME)

(TITLE OR POSITION IN ORGANIZATION)

**K.1 FAR 52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION
(APR 1985)**

(a) The Supplier certifies that—

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other Supplier or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this offer have not been and will not be knowingly disclosed by the Supplier, directly or indirectly, to any other Supplier or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the Supplier to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory—

(1) Is the person in the Supplier's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2)(i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above _____ [insert full name of person(s) in the Supplier's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the Supplier's organization];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the Supplier deletes or modifies subparagraph (a)(2) above, the Supplier must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

K.2 FAR 52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The Supplier, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,—

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the Supplier shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of Provision)

K.3 FAR 52.204-5 Women-Owned Business (Other Than Small Business). (5/99)

Women-Owned Business (Other Than Small Business) (May 1999)

(a) *Definition.* "Women-owned business concern," as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) *Representation.* [Complete only if the Supplier is a women-owned business concern and has not represented itself as a small business concern in paragraph (b) (1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.]

The Supplier represents that it () is a woman-owned business concern.

(End of provision)

K.4 FAR 52.209-5 Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters. (DEC 2001)

Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters (Jan 2001)

(a)(1) The Supplier certifies, to the best of its knowledge and belief, that--

(i) The Supplier and/or any of its Principals--

(A) Are () are not () presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have () have not (), within the three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; [This language stayed indefinitely. Please use paragraph (a) (1) (i) (D) below.]

(C) Are () are not () presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a) (1) (i) (B) of this provision; and [This language stayed indefinitely. Please use paragraph (a) (1) (i) (E) below.]

(D) Have [] have not [], within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public

(Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(E) Are () are not () presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a) (1) (i) (D) of this provision.

ii) (A) [This paragraph (a) (1) (ii) is stayed indefinitely.] The Supplier, aside from the offenses enumerated in paragraphs (a)(1)(i)(A), (B), and (C) of this provision, has * has not * within the past three years, relative to tax, labor and employment, environmental, antitrust, or consumer protection laws—

(1) Been convicted of a Federal or State felony (or has any Federal or State felony indictments currently pending against them); or

(2) Had a Federal court judgment in a civil case brought by the United States rendered against them; or

(3) Had an adverse decision by a Federal administrative law judge, board, or commission indicating a willful violation of law.

(B) If the Supplier has responded affirmatively, the Supplier shall provide additional information if requested by the Contracting Officer; and

(iii) The Supplier has () has not (), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Supplier shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Supplier learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Supplier's responsibility. Failure of the Supplier to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Supplier non-responsive.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of a Supplier is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Supplier knowingly rendered an erroneous certification, in addition to other remedies available to the Government the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

K.5 FAR 52.215-6 PLACE OF PERFORMANCE (OCT 1997)

(a) The Supplier or respondent, in the performance of any contract resulting from this solicitation, intends, does not intend (check applicable block) to use one or more plants or facilities located at a different address from the address of the Supplier or respondent as indicated in this proposal or response to request for information.

(b) If the Supplier or respondent checks "intends" in paragraph (a) of this provision, it shall insert in the following spaces the required information.

Place of Performance (Street Address, City, County, State, Zip Code)	Name and Address of Owner and Operator of the Plant or Facility if Other than Supplier or Respondent
_____	_____
_____	_____
_____	_____

(End of provision)

K.6 FAR 52.219-1 Small Business Program Representations. (APR 2002)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is _____ [insert NAICS code].

(2) The small business size standard is _____ [insert size standard].

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations.

(1) The Supplier represents as part of its offer that it is, is not a small business concern.

(2) [Complete only if the Supplier represented itself as a small business concern in paragraph (b) (1) of this provision.] The Supplier represents, for general statistical purposes, that it is, is not, a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) [Complete only if the Supplier represented itself as a small business concern in paragraph (b) (1) of this provision.] The Supplier represents as part of its offer that it is, is not a women-owned small business concern.

(4) [Complete only if the Supplier represented itself as a small business concern in paragraph (b) (1) of this provision.] The Supplier represents as part of its offer that it is, is not a veteran-owned small business concern.

(5) [Complete only if the Supplier represented itself as a veteran-owned small business concern in paragraph (b) (4) of this provision.] The Supplier represents as part of its offer that it is, is not a service-disabled veteran-owned small business concern.

(6) [Complete only if the Supplier represented itself as a small business concern in paragraph (b) (1) of this provision.] The Supplier represents, as part of its offer, that-

(i) It is, is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It is, is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. [The Supplier shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture: _____.] Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(c) Definitions. As used in this provision-

"Service-disabled veteran-owned small business concern"-

(1) Means a small business concern-

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern" means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (a) of this provision.

"Veteran-owned small business concern" means a small business concern-

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern" means a small business concern-

(1) That is at least 51 percent owned by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall.

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

Alternate I (Apr 2002). As prescribed in 19.307(a) (2), add the following paragraph (b) (7) to the basic provision:

(7) [Complete if Supplier represented itself as disadvantaged in paragraph (b) (2) of this provision.] The Supplier shall check the category in which its ownership falls:

_____ Black American.

_____ Hispanic American.

_____ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

_____ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

_____ Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

_____ Individual/concern, other than one of the preceding.

K.7 FAR 52.219-22 Small Disadvantaged Business Status (OCT 1999)

a) *General.* This provision is used to assess a Supplier's small disadvantaged business status for the purpose of obtaining a benefit on this solicitation. Status as a small business and status as a small disadvantaged business for general statistical purposes is covered by the provision at FAR 52.219-1, Small Business Program Representation.

(b) *Representations.* (1) *General.* The Supplier represents, as part of its offer, that it is a small business under the size standard applicable to this acquisition; and either--

* (i) It has received certification by the Small Business Administration as a small disadvantaged business concern consistent with 13 CFR 124, Subpart B; and

(A) No material change in disadvantaged ownership and control has occurred since its certification;

(B) Where the concern is owned by one or more disadvantaged individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(C) It is identified, on the date of its representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration (PRO-Net); or

* (ii) It has submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(2) * *For Joint Ventures.* The Supplier represents, as part of its offer, that it is a joint venture that complies with the requirements at 13 CFR 124.1002(f) and that the representation in paragraph (b)(1) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. [*The Supplier shall enter the name of the small disadvantaged business concern that is participating in the joint venture:_____.*]

(c) Disadvantaged status of a concern for the purposes of securing a contract or subcontract shall.-

(1) Be punished by imposition of a fine, imprisonment, or both;

(2) Be subject to administrative remedies, including suspension and debarment; and

(3) Be ineligible for participation in programs conducted under the authority of the Small Business Act.

(End of provision)

Alternate I (Oct 1998). As prescribed in 19.307(b), add the following paragraph (b) (3) to the basic provision:

(3) Address. The Supplier represents that its address * is, * is not in a region for which a small disadvantaged business procurement mechanism is authorized and its address has not changed since its certification as a small disadvantaged business concern or submission of its application for certification. The list of authorized small disadvantaged business procurement mechanisms and regions is posted at <http://www.arnet.gov/References/sdbadjustments.htm>. The Supplier shall use the list in effect on the date of this solicitation. "Address," as used in this provision, means the address of the Supplier as listed on the Small Business Administration's register of small disadvantaged business concerns or the address on the completed application that the concern has submitted to the Small Business Administration or a Private Certifier in accordance with 13 CFR part 124, subpart B. For joint ventures, "address" refers to the address of the small disadvantaged business concern that is participating in the joint venture.

(End of provision)

K.8 FAR 52.222-22 Previous Contracts and Compliance Reports. (FEB 1999)

Previous Contracts and Compliance Reports (Feb 1999)

The Supplier represents that--

(a) It [] has, [] has not participated in a previous contract or subcontract subject the Equal Opportunity clause of this solicitation;

(b) It [] has, [] has not filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

K.9 FAR 52.222-25 AFFIRMATIVE ACTION COMPLIANCE (APR 1984)

The Supplier represents that (a) it [] has developed and has on file, [] has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or (b) it [] has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(End of provision)

K.10 FAR 52.225-2 Buy American Act--Balance of Payments Program Certificate. (MAY 2002)

(a) The Supplier certifies that each end product, except those listed in paragraph (b) of this provision, is a domestic end product as defined in the clause of this solicitation entitled "Buy American Act--Balance of Payments Program--Supplies" and that the Supplier has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The Supplier shall list as foreign end products those end products manufactured in the United States that do not qualify as domestic end products.

(b) Foreign End Products:

Line Item No Country of Origin

Line Item No	Country of Origin

[List as necessary]

(c) Arcata and the Government will evaluate offers in accordance with the policies and procedures of Part 25 of the Federal Acquisition Regulation.

(End of provision)

K.11 FAR 52.230-1 COST ACCOUNTING STANDARDS, NOTICES, AND CERTIFICATION (June 2000)

Note: This notice does not apply to small businesses or foreign governments. This notice is in three parts, identified by Roman numerals I through III. Suppliers shall examine each part and provide the requested information in order to determine Cost Accounting Standards (CAS) requirements applicable to any resultant contract. If the Supplier is an educational institution, Part II does not apply unless the contemplated contract is subject to full or modified CAS coverage pursuant to 48 CFR 9903.201-2(c)(5) or 9903.201-2 ©(6), respectively.

I. DISCLOSURE STATEMENT - COST ACCOUNTING PRACTICES AND CERTIFICATION

(a) Any contract in excess of \$500,000 resulting from this solicitation, except contracts in which the price negotiated is based on (1) establishing catalog or market prices of commercial items sold in substantial quantities to the general public, or (2) prices set by law or regulation, will be subject to the requirements of 48 CFR, Parts 9903 and 9904, except for those contracts which are exempt as specified in 48 CFR, Subpart 9903.201-1.

(b) Any Supplier submitting a proposal which, if accepted, will result in a contract subject to the requirements of 48 CFR, Chapter 99 must, as a condition of contracting, submit a Disclosure Statement as required by 48 CFR, Subpart 9903.202. When required, the Disclosure Statement must be submitted as a part of the Supplier's proposal under this solicitation unless the Supplier has already submitted a Disclosure Statement disclosing the practices used in connection with the pricing of this proposal. If an applicable Disclosure Statement has already been submitted, the Supplier may satisfy the requirement for submission by providing the information requested in paragraph (c) of Part I of this provision.

CAUTION: In the absence of specific regulations or agreement, a practice disclosed in a Disclosure Statement shall not, by virtue of such disclosure, be deemed to be a proper, approved, or agreed-to practice for pricing proposals or accumulating and reporting contract performance cost data.

(c) Check the appropriate box below:

(1) Certificate of Concurrent Submission of Disclosure Statement.
The Supplier hereby certifies that, as a part of the offer, copies of the Disclosure Statement have been submitted as follows: (i) original and one copy to the cognizant Administrative Contracting Officer (ACO) or cognizant Federal agency official authorized to act in that capacity (Federal official), as applicable, and (ii) one copy to the cognizant Federal auditor.

(Disclosure must be on Form Number CASB DS-1 or CASB DS-2 as applicable. Forms may be obtained from the cognizant ACO or Federal Official and/or the loose-leaf version of the Federal Acquisition Regulation.)

Date of Disclosure Statement: _____

Name and Address of Cognizant ACO or Federal Official where filed:

The Supplier further certifies that practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement.

- (2) Certificate of Previously Submitted Disclosure Statement.

The Supplier hereby certifies that Disclosure Statement was filed as follows:

Date of Disclosure Statement: _____

Name and Address of Cognizant ACO or Federal Official where filed:

The Supplier further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the applicable Disclosure Statement.

- (3) Certificate of Monetary Exemption.

The Supplier hereby certifies that the Supplier, together with all divisions, subsidiaries, and affiliates under common control, did not receive net awards of negotiated prime contracts and subcontracts subject to CAS totaling more than \$25 million (of which at least one award exceeded \$1 million) in the cost accounting period immediately preceding the period in which this proposal was submitted. The Supplier further certifies that if such status changes before an award resulting from this proposal, the Supplier will advise the Contracting Officer immediately.

- (4) Certificate of Interim Exemption.

The Supplier hereby certifies that (i) the Supplier first exceeded the monetary exemption for disclosure, as defined in (3) of this subsection, in the cost accounting period immediately preceding the period in which this offer was submitted and (ii) in accordance with 48 CFR, Subpart 9903.202-1, the Supplier is not yet required to submit a Disclosure Statement. The Supplier further certifies that if an award resulting from this proposal has not been made within 90 days after the end of that period, the Supplier will immediately submit a revised certificate to the Contracting Officer, in the form specified under subparagraphs (c)(1) or (c)(2) of Part I of this provision, as appropriate, to verify submission of a completed Disclosure Statement.

CAUTION: Suppliers currently required to disclose because they were awarded a CAS-covered prime contract or subcontract of \$25 million or more in the current cost

accounting period may not claim this exemption (4). Further, the exemption applies only in connection with proposals submitted before expiration of the 90-day period following the cost accounting period in which the monetary exemption was exceeded.

II. COST ACCOUNTING STANDARDS - ELIGIBILITY FOR MODIFIED CONTRACT COVERAGE

If the Supplier is eligible to use the modified provisions of 48 CFR, Subpart 9903.201-2(b) and elects to do so, the Supplier shall indicate by checking the box below. Checking the box below shall mean that the resultant contract is subject to the Disclosure and Consistency of Cost Accounting Practices clause in lieu of the Cost Accounting Standards clause.

The Supplier hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 48 CFR, Subpart 9903.201-2(b) and certifies that the Supplier is eligible for use of the Disclosure and Consistency of Cost Accounting Practices clause because (i) during the cost accounting period immediately preceding the period in which this proposal was submitted, the Supplier received less than \$25 million in awards of CAS-covered prime contracts and subcontracts, or the Supplier did not receive a single CAS-covered award exceeding \$1 million. The Supplier further certifies that if such status changes before an award resulting from this proposal, the Supplier will advise the Contracting Officer immediately.

CAUTION: A Supplier may not claim the above eligibility for modified contract coverage if this proposal is expected to result in the award of a CAS-covered contract of \$25 million or more or if, during its current cost accounting period, the Supplier has been awarded a single CAS-covered prime contract or subcontract of \$25 million or more.

III. ADDITIONAL COST ACCOUNTING STANDARDS APPLICABLE TO EXISTING CONTRACTS

The Supplier shall indicate below whether award of the contemplated contract would, in accordance with subparagraph (a)(3) of the Cost Accounting Standards clause, require a change in established cost accounting practices affecting existing contracts and subcontracts.

YES NO

(End of Provision)

K.12 FAR 15.406-2 CERTIFICATE OF CURRENT COST OR PRICING DATA

This is to certify that, to the best of my knowledge and belief, the cost or pricing data (as defined in section 2.101 of the Federal Acquisition Regulation (FAR) and required under FAR subsection 15.403-4) submitted, either actually or by specific identification in writing, to the Contracting Officer or to the Contracting Officer's representative in support of _____* are accurate, complete, and current as of _____**. This certification includes the cost or pricing data supporting any advance agreements and forward pricing rate agreements between the Supplier and Arcata that are part of the proposal.

Firm: _____

Signature: _____

Name: _____

Title: _____

Date of execution***: _____

* Identify the proposal, request for price adjustment, or other submission involved, giving the appropriate identifying number (e.g., RFP No.).

** Insert the day, month, and year when price negotiations were concluded and price agreement was reached or, if applicable, an earlier date agreed upon between the parties that is as close as practicable to the date of agreement on price.

*** Insert the day, month, and year of signing, which should be as close as practicable to the date when the price negotiations were concluded and the contact price was agreed to.

(End of certificate)

SECTION L

INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS

L.1 PREPARATION OF OFFERS

Offeror(s) shall submit a proposal by completing Sections B and K of this solicitation and submitting the proposal to the "Issued By" Office not later than the date and time required by this solicitation. In addition, offeror's who submit offers without the required certifications or descriptive literature may be considered non-responsive by Arcata Associates, Inc.

L.2 The Site Survey will be conducted on December 2, 2008. Arcata Associates, Inc. does not intend to hold an additional site survey.

L.3 **OFFEROR RESPONSES:** Any questions concerning this solicitation are to be submitted via email to DFRC-DL-ARCATA-PROCUREMENT@MAIL.NASA.GOV **NO LATER THAN PST 3:00pm, December 9, 2008.** The Buyer should also be notified in writing within the same time frame of any conflicting requirements, discrepancies, or omissions that are found. The Buyer's response to any written question or other concern will be provided in writing on December 16, 2008 to all sources requesting this solicitation. Any amendment to this solicitation will be furnished to all potential sources.

L.4 **PROPOSAL SUBMISSION:** The Offeror should respond to this solicitation with a formal, comprehensive proposal. The proposal is to be separately bound into three volumes:

Volume I – Business Proposal. One (1) Original, six (6) hard copies and two (1) CD of the Business Proposal is required. The Business Proposal shall contain an executed copy of Sections B, and K of this solicitation.

Volume II – Technical Proposal. One (1) Original, six (6) hard copies and two (1) CD of the Technical Proposal shall be submitted. No pricing shall be included in the Technical Proposal.

The Offeror's Technical Proposal must answer each paragraph specifically in the Statement of Work. For ease of evaluation, the Offeror shall reference each paragraph number of each Statement of Work in the Technical Proposal. The terms "in compliance" and "will conform" are not normally considered an acceptable response.

Any additional submissions, such as catalog sheets, technical specifications, drawings, etc., should be included in Volume II.

Should the Offeror take exception to certain requirements stated herein, the Offeror should state the reason or reasons for the exception or non-compliance. If any Offeror desires to offer equipment that deviates from the minimum requirements of the

Statement of Work, either for enhancement or cost affectivity, the Offeror shall first propose complying or qualifying equipment, followed by the offered option equipment.

Volume III – Past Performance. One (1) Original, six (6) hard copies and two (1) CD of the Past Performance Proposal (relevant experience) shall be submitted. No pricing shall be included in the Past Performance.

Offerors shall provide (if available):

1. References of similar work
2. A description of experience working on a military facility
3. A description of any experience installing or building a similar structure (i.e.; constructing a metal building, installing towers, bridges, etc.).

**Insert the day, month, and year when price negotiations were concluded and price agreement was reached, or if applicable, an earlier date agreed upon between the parties that is as close as practicable to the date of agreement on price.

*** Insert the day, month, and year of signing, which should be as close as practicable to the date when the price negotiations were concluded and the contract price was agreed to.

(End of certificate)

L.5 This solicitation incorporates the following provisions by reference, with the same force and effect as if they were given in full text. Upon request, Arcata Associates, Inc. will make their full text available. Without limiting conditions of any other part herein, the following contract provisions contained in the Federal Acquisition Regulation (FAR), as amended, are incorporated herein and made a part hereof by this reference. Where necessary to make the context of these provisions applicable to this Purchase Order, the term "contractor" shall mean "Supplier", the term "contract" shall mean "this Purchase Order", and the terms "Government", "Contracting Officer" and equivalent phrases shall mean "Buyer". All referenced provision numbers refer to the current provisions and revisions in effect as of the date of this Purchase Order. All references to "Disputes" contained in any of the below provisions are hereby deleted in their entirety. (**NOTE:** Only those provisions indicated by (X) apply to this solicitation.)

PROVISION NO.	PROVISION TITLE	DATE
(X) 52.211-14	Notice of Priority Rating for National Defense Use	(SEP 1990)
(X) 52.215-1	Instructions to Offeror's-Competitive Acquisition	(JAN 2004)
() 52.215-5	Facsimile Proposals	(OCT 1997)
(X) 52.222-24	Pre award On-Site Equal Opportunity Compliance Evaluation	(FEB 1999)

L.6 PROCUREMENT POINT OF CONTACT (BUYER)

(a) Any communication concerning this solicitation shall cite the solicitation number and be directed only to the following Arcata representative:

NAME: Anne Crowell
Arcata Associates, Inc.
TITLE: Senior Buyer, Procurement
PHONE: (661)276-2591
FAX: (661)276-6092

E-MAIL: Anne.Crowell-1@nasa.gov
ADDRESS: Arcata Associates, Inc.
Building 857, Warehouse # 6
Lilly Drive
Edwards, CA 93523

(b) Technical questions shall be sent via email and presented in the following format:

Reference: (Identify the section of the document, including some portion or all of the text.)

Question: (State your question in regard to the referenced section.)

Questions or requests for clarification on this RFP must be submitted by **3 p.m. Pacific Standard Time (PST) on December 9, 2008** by email to DFRC-DL-ARCATA-PROCUREMENT@MAIL.NASA.GOV or by facsimile to (661) 276-6092. If a Supplier is unable to use either email or fax, contact Anne Crowell at (661) 276-2591. Questions about this RFP and their answers will be posted on the solicitation website.

L.7 FALSE STATEMENTS IN OFFERS

Suppliers must provide full, accurate, and complete information as required by this solicitation and its attachments. The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

L.8 PROPOSAL DELIVERY

The proposal shall be delivered by any selected carrier service such as U.S.P.S., FedEx, or UPS, or it may be hand-delivered.

All proposal material shall be delivered in a printed format as described in this document. All proposal material must be in the possession of the POC not later than **3:00 p.m. PST on Friday, October 24, 2008**.

L.9 HANDLING OF PROPOSAL CONTENT

Arcata Associates, Inc. shall assume that all materials contained in all volumes of the proposal contain proprietary information, regardless of whether or not they were requested to sign a nondisclosure agreement. The Supplier is specifically required to

identify each page that they know contains proprietary information with the following legend:

“Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.” If a contract is awarded to a Supplier as a result of, or in connection with, the submission of this data, Arcata shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract.

L.10 DEBRIEFINGS

The POC will notify Suppliers of any decision to exclude them from the competitive selection assessment, whereupon they may request and receive a debriefing. The POC will notify unsuccessful Suppliers in the competitive selection assessment of the source selection decision. Upon such notification, unsuccessful Suppliers may request and receive a debriefing.

L.11 EXCEPTIONS

Should the Supplier take exception to certain requirements stated herein, the Supplier should state the reason or reasons for the exception or non-compliance. If any Supplier desires to offer equipment that deviates from the minimum requirements of the Statement of Work, either for enhancement or cost affectivity, the Supplier shall first propose complying or qualifying equipment, followed by the offered option equipment.

L.12 PROPOSAL – REQUIRED CONTENT

The Supplier shall prepare a proposal as set forth in the Proposal Organization Table below. The proposal contents of each volume must be as identified in the table, with the original copy clearly indicated as "original".

Title	Original/Copies/CD's
Cover Letter	1/6/ No CD required
Business Proposal (separately bound)	1/6/1
Technical Proposal (separately bound)	1/6/1
Past Performance (separately bound)	1/6/1

L.13 PROPOSAL VALIDITY

The proposal shall be valid for a period of not less than 180 calendar days from the required submission date. The Supplier shall include a clear statement that their proposal is valid for 180 days from submission.

(END OF SECTION)

SECTION M

EVALUATION FACTORS FOR AWARD

M.1 BASIS FOR CONTRACT AWARD: The proposal will be evaluated upon the basis of the factors below. Final award will be made based on the factors in M.2 which form the best value for Arcata Associates, Inc.

M.2 EVALUATION FACTORS FOR AWARD: Arcata will evaluate each offer based on an integrated assessment of the Technical, Past Performance, and Cost/Price portions of the proposal. Assessment will include:

M.3 AWARD: (a) Arcata Associates, Inc. intends to award a Purchase Order resulting from this solicitation to the responsible offeror whose offer conforming to the solicitation will be most advantageous to Arcata Associates, Inc. cost or pricing and other factors specified elsewhere in this solicitation considered.

(b) Arcata Associates, Inc. may (1) reject any or all offers if such action is in the best interest of Arcata Associates, Inc. (2) accept other than the lowest offer, and (3) waive informalities and minor irregularities in offers received.

(c) Arcata Associates, Inc. may award a Purchase Order on the basis of the initial offer without discussions. Therefore, the initial offer should contain the Offeror's best terms from a cost or price and technical standpoint.

(d) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer shall result in a binding Purchase Order without further action by either party. Before the offer's specified expiration time, Arcata Associates, Inc. may accept the offer whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award. Negotiations conducted after receipt of the offer do not constitute a rejection or counter-offer by Arcata Associates, Inc.

(e) Neither financial data submitted with an offer, nor representation concerning facilities or financing, will form a part of the resulting Purchase Order. However if the resulting Purchase Order contains a clause providing for price reduction for defective cost or pricing data, the Purchase Order price will be subject to reduction if cost pricing data furnished is incomplete, inaccurate, or not current.

(f) It is the intention of Arcata Associates, Inc. to award one Purchase Order for the items defined in Section B to the Offeror whose proposal is determined to be in the best interest of Arcata Associates, Inc. This does not preclude or limit Arcata Associates, Inc. from making a split award if it is deemed in the best interest of Arcata Associates, Inc.

M.4 Award of a Purchase Order is at the sole discretion of Arcata Associates, Inc. and may be contingent upon receipt of NASA funding. Arcata Associates, Inc. reserves the right to reject any or all offers based solely on Arcata Associates, Inc. judgment.

M.5 Without limiting conditions of any other part herein, the following contract clauses contained in the Federal Acquisition Regulation (FAR), as amended, are incorporated herein and made a part hereof by this reference. Where necessary to make the context of these clauses applicable to the Purchase Order, the term “Contractor” shall mean “Supplier”, the term “contract” shall mean “this Purchase Order”, and the terms “Government”, “Contracting Officer”, and equivalent phrases shall mean “Buyer”. All referenced paragraph numbers refer to the current paragraphs and revisions in effect as of the date of this Purchase Order. All references to “Disputes” contained in any of the below are hereby deleted in their entirety. (NOTE: Only those clauses indicated by (X) apply to this Purchase Order.)

Provision Number	Provision Title	Date
(x) 52.217-3	Evaluation Exclusive of Options	(APR 1984)
(x) 52.217-4	Evaluation of Options Exercised at Time of Contract Award	(JUN 1988)
(x) 52.217-5	Evaluation of Options	(JUL 1990)

M.5 EVALUATION FACTORS

M.5.1 Evaluation Factors and Sub factors

Award will be made to the Supplier(s) with the most advantageous proposal(s) to Arcata Associates, Inc. based upon an integrated assessment of the evaluation factors and sub factors (and elements, if used) described below. The Technical Capability factor and sub factors are the most important and are more important than the Relevant Experience and Past Performance and Business factors; however, Relevant Experience, Past Performance and the Business Proposal will contribute significantly to the selection decision. Within the Technical Capability factor, the sub factors are of equal importance.

Factor 1: Technical Capability

Sub factor 1: Management and Engineering Approach

Sub factor 2: Design Engineer

Sub factor 3 Build

Sub factor 4: Reliability, Maintainability, and Accessibility

Factor 2: Relevant Experience and Past Performance

Factor 3: Business Proposal

Sub factor 1: Cost/Price

Sub factor 2: Representations and Certifications

M.5.2 Factor and Sub factor Ratings

Each proposal will be evaluated qualitatively by assigning the following ratings to each Mission Capability evaluation factor and sub factor.

Performance Rating		
Rating	Points	Definition
Outstanding	100	Proposal significantly exceeds requirements in a way that benefits Arcata or meets the requirements and contains at least one exceptional enhancing feature, which benefits Arcata. Any weakness is minor.
Highly Satisfactory	85	Proposal exceeds requirements in a way that benefits Arcata or meets the requirements and contains enhancing features which may benefit Arcata. Any weakness is minor.
Satisfactory	60	Proposal meets requirements. Any weaknesses are acceptable to Arcata.
Marginal	35	Proposal contains weaknesses or minor deficiencies which could have some impact if accepted.
Unsatisfactory	20	Proposal does not comply substantially with RFP requirements.
TOTAL	300	Total Points Possible

Included in the evaluation shall be a risk assessment of the Supplier's Mission Capability evaluation factors and sub factors. The following are the risk definitions to be utilized:

Risk Rating		
Rating	Points	Definition
Low	100	Based on the Supplier's technical approach, essentially no doubt exists that the Supplier will successfully perform the required effort.
Medium	75	Can potentially cause some disruption of schedule, increase in cost or degradation of performance. However, special contractor emphasis will probably be able to overcome difficulties.
High	25	Likely to cause significant serious disruption of schedule, increase in cost, or degradation of performance even with special contractor emphasis.
TOTAL	200	Total Points Possible

A Past Performance risk assessment of the Supplier's proposal shall be conducted. The following risk ratings will be used for Past Performance:

Past Performance Rating		
Rating	Points	Definition
Very Low	100	Based on the Supplier's experience or past performance, essentially no doubt exists that the Supplier will successfully perform the required effort.
Low	80	Based on the Supplier's experience or past performance, little doubt exists that the Supplier will successfully perform the required effort.
Moderate	60	Based on the Supplier's experience or past performance, some doubt exists that the Supplier will successfully perform the required effort.
High	40	Based on the Supplier's experience or past performance, substantial doubt exists that the Supplier will successfully perform the required effort.
Very High	20	Based on the Supplier's experience or past performance, extreme doubt exists that the Supplier will successfully perform the required effort.
Unknown	0	No performance record identifiable. This applies only to Past Performance.
TOTAL	300	Total Points Possible

M.6 RELEVANT EXPERIENCE AND PAST PERFORMANCE

Under the Relevant Experience and Past Performance factor, the Performance Confidence Assessment represents the evaluation of a Supplier's and associated key or major subcontractors', teaming partners', and joint venture partners' present and past work record to assess Arcata's confidence that the Supplier will successfully perform as proposed. Arcata will evaluate the Supplier and associated key or major subcontractors', teaming partners' and joint venture partners' demonstrated record of contract compliance in supplying products and services that meet user's needs, including cost and schedule. The Relevant Experience and Past Performance evaluation is accomplished by reviewing aspects of a Supplier's and associated key or major subcontractors', teaming partners', and joint venture partners' relevant present and recent past performance, focusing on and targeting performance that is relevant to the Mission Capability factor and sub factors and the requirements of this solicitation.

Arcata will evaluate current and past (within the last five (5) years) performance to determine Arcata's confidence in the Contractor's ability to successfully perform the project effort. The Past Performance evaluation is to include references of similar work, describe working on a military facility and describe any experience working on a similar type project, i.e.; construction of metal buildings, installing towers, bridges, etc. In determining technical relevance, the criteria shown below will be used. Supplier should note that the order of the criteria does not imply any prioritization.

- a. Integration – Supplier’s past performance in the integration of similar systems.
- b. Design – Supplier’s past performance in the design and reliability of similar systems.

In addition, the following criteria will be evaluated to determine Arcata’s confidence in the Supplier’s ability to successfully perform the **Antenna Tower Installation** effort:

- a. Reliability – Supplier’s past performance in the reliability of similar systems
- b. Schedule – Supplier’s past performance in meeting proposed schedules and initiative expressed in meeting requirements and taking corrective action
- c. Cost – Quality of cost reporting and effectiveness in controlling associated costs
- d. Success - Extent of prior success and attainment of technical goals
- e. Prioritization - Effectiveness of handling priorities, changes, emergencies and other unexpected situations
- f. Resources - Adequacy and accessibility of support from other segments of the company
- g. Communication - Degree of cooperation and effectiveness of working relationships with customers.
- h. Quality - Quality of technical performance and of meeting customer expectations

Present or recent past performance of subcontractors, teaming partners, and joint venture partners will be assessed as either relevant or not relevant.

Past performance information may include data on efforts performed by other divisions, critical subcontractors, or teaming contractors, if such resources will be brought to bear or significantly influence the performance of the proposed effort. Arcata may consider as relevant efforts performed for agencies of the federal, state, or local governments and commercial customers where the performance can be independently verified. As a result of those risks and strengths identified, each Supplier’s will receive an integrated Performance Confidence Assessment, which is the rating for the Past Performance factor. Although the past performance evaluation focuses on performance that is relevant to the Mission Capability factor and sub factors, the resulting Performance Confidence Assessment is made at the factor level and represents an overall evaluation of the likelihood of successful contractor performance. In addition to evaluating the extent to which the Supplier’s performance meets mission requirements, the assessment will consider things such as the Supplier’s history of forecasting and controlling costs, adhering to schedules (including the administrative aspects of performance), reasonable and cooperative behavior and commitment to customer satisfaction, and generally, the contractor’s business-like concern for the interest of the customer.

Where the Supplier’s relevant performance record indicates performance problems, Arcata will consider the number and severity of the problems and the appropriateness and effectiveness of any corrective actions taken (not just planned or promised). Arcata may review more recent contracts or performance evaluations to ensure corrective actions have been implemented and to evaluate their effectiveness.

Supplier's without a record of relevant past performance or for whom information on past performance is not available will not be evaluated favorably or unfavorably on past performance, and as a result, will receive a "Neutral/Unknown Confidence" rating for the Past Performance factor.

More recent and relevant performance will have a greater impact on the Performance Confidence Assessment than less recent or less relevant effort. A strong record of relevant past performance may be considered more advantageous to Arcata than a "Neutral/Unknown Confidence" rating. Likewise, a more relevant past performance record may receive a higher confidence rating and be considered more favorably than a less relevant record of favorable performance.

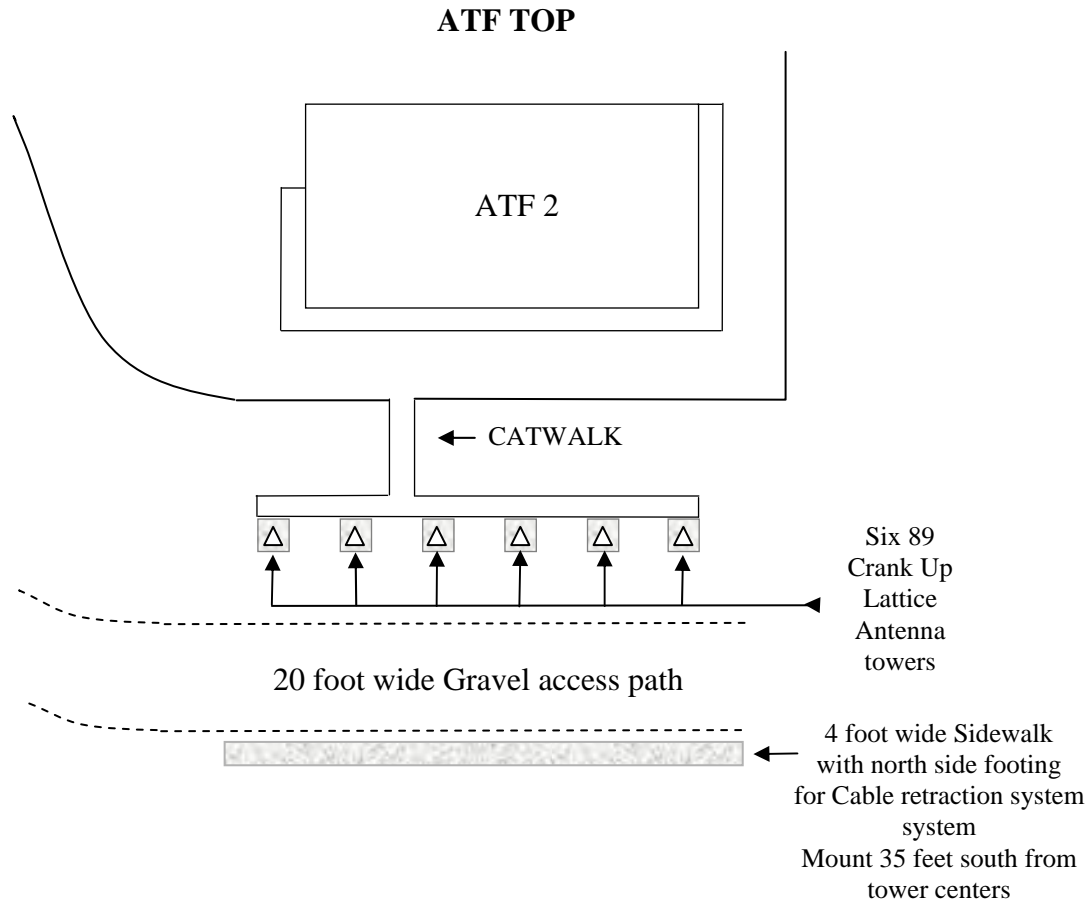
[END OF SOLICITATION]

ATTACHMENT A
NOTIONAL DRAWINGS AS DESCRIBED IN 1.1

ATTACHMENT A.1

ATF 2 Top View 5 Nov 2008

ATF 2 ANTENNA TOWERS Top View

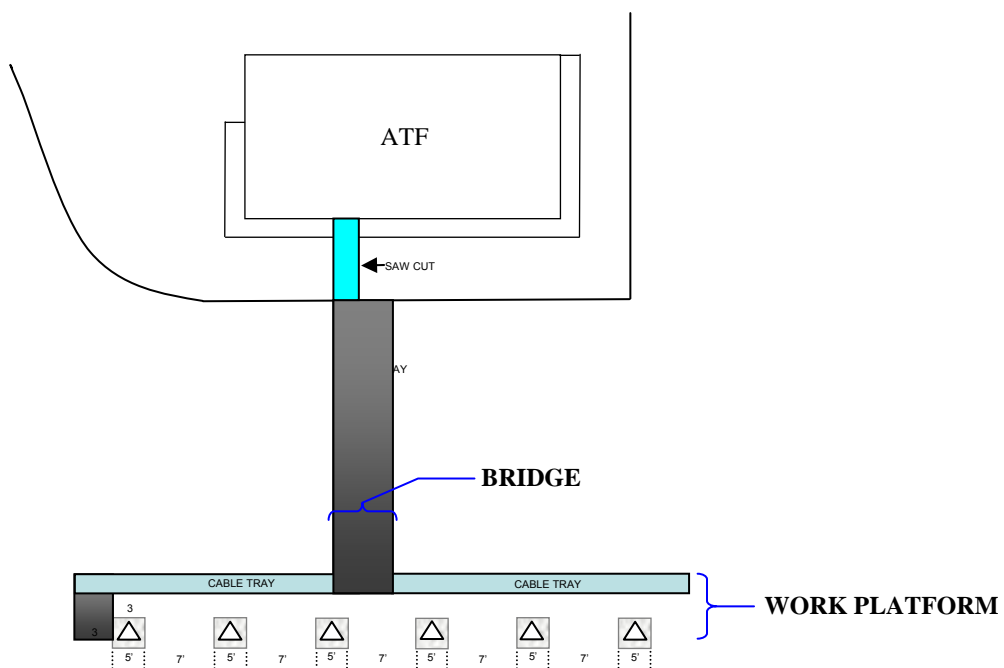


- Six 89 foot crank up towers will be installed on the south slope of the bld. 4720 ATF 2 site
- Exact lat/long and elevations TBD by survey

Drawing not to scale

ATTACHMENT A.2
ATF 2 Catwalk 5 Nov 2008

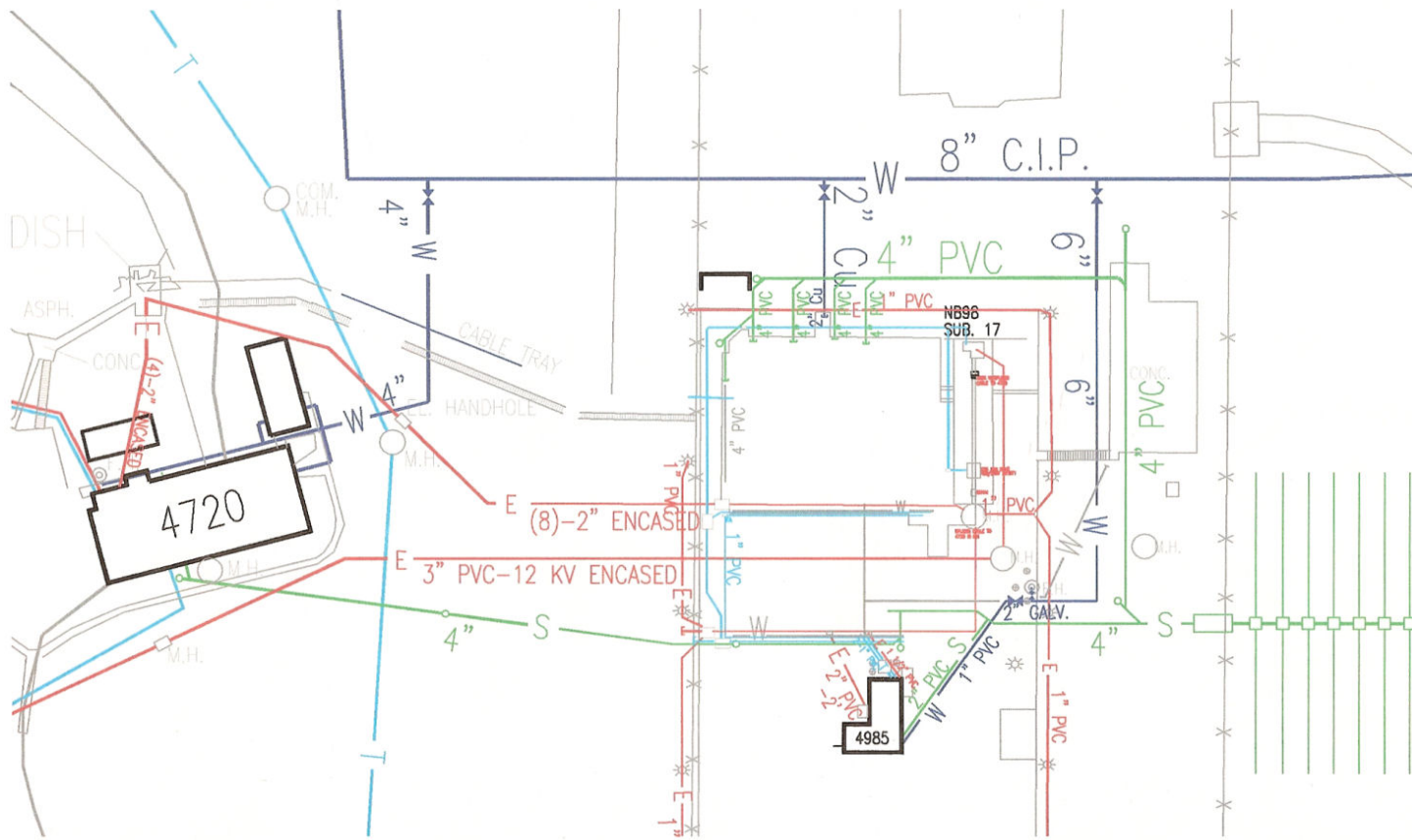
ATF 2 ANTENNA TOWERS
Catwalk Top View



89 foot Crank Up Lattice Antenna towers
(Cable tray mounted beneath Catwalk)

ATTACHMENT A.3

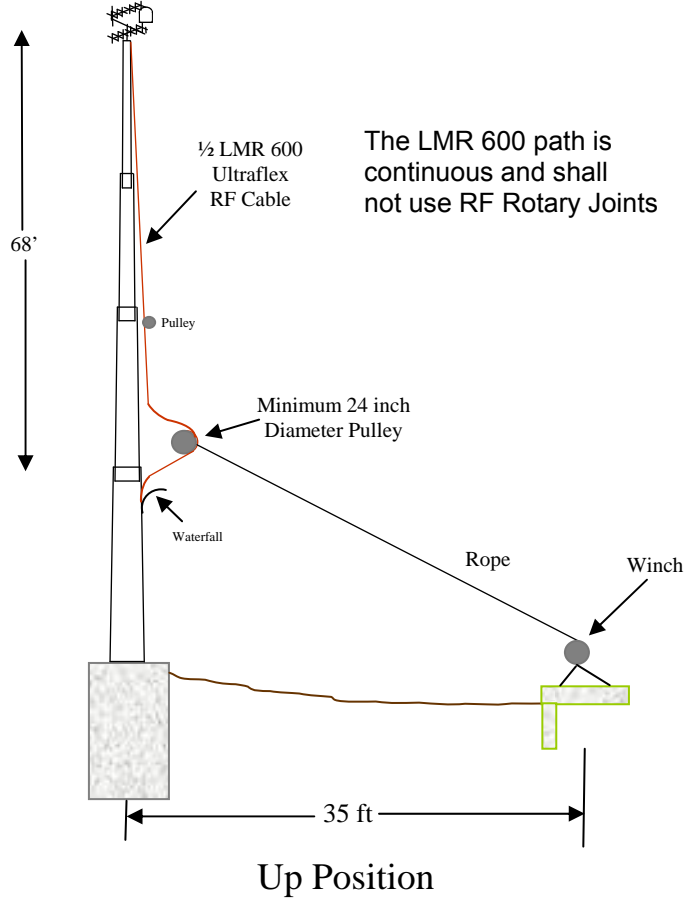
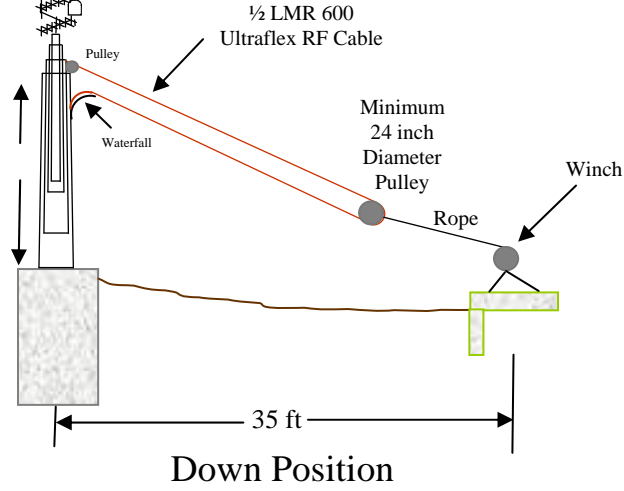
ATF 2 Underground



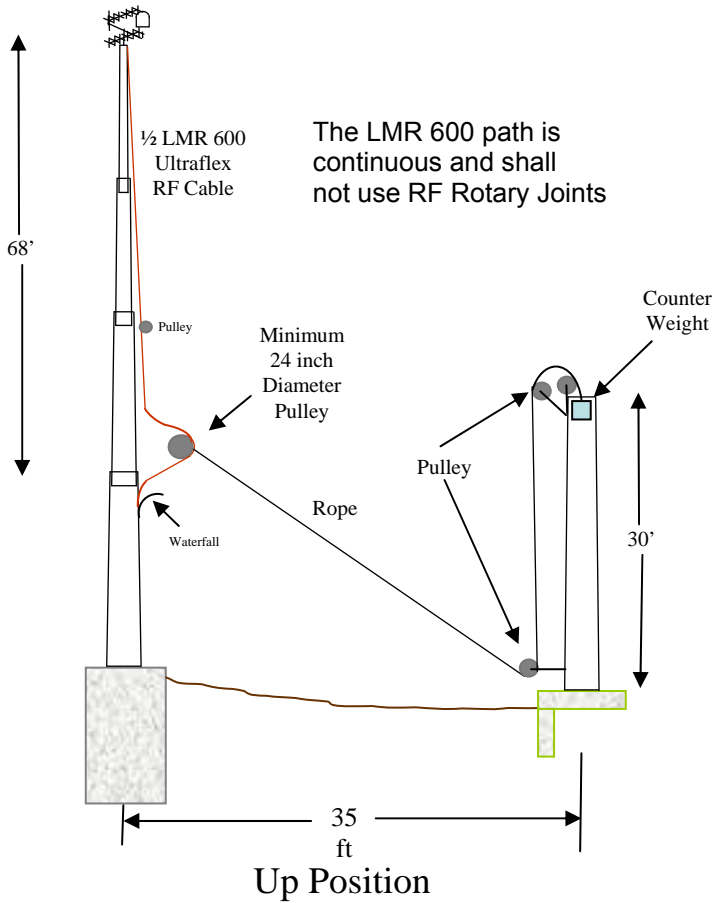
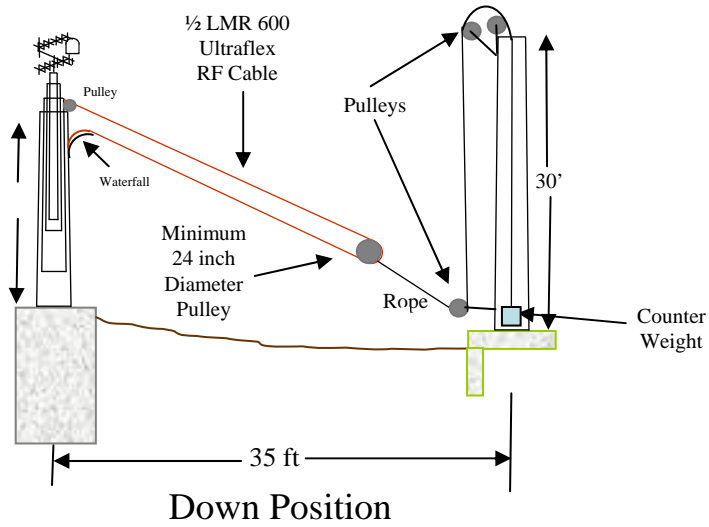
ATTACHMENT A.4

Cable Retraction Concept 5 Nov 2008

CONCEPT #1 ELECTRIC WINCH AS RETRACTOR



CONCEPT #2 RETRACTION WITH COUNTER WEIGHT



ATTACHMENT B

Standard Requirements Section 01010D

PART 1 GENERAL

1.1 SUMMARY

The requirements of this section apply to, and are a component part of, each section of the specifications. The following are standard requirements in construction contracts at the National Aeronautics and Space Administration Dryden Flight Research Center (DFRC).

1.3 SUBMITTALS

The following shall be submitted in accordance with Section 01330 "SUBMITTAL PROCEDURES" in sufficient detail to show full compliance with the specification:

SD-01 Preconstruction Submittals

Progress Schedule shall be submitted in accordance with Paragraph 1.5 "PROGRESS SCHEDULE".

Schedule of Prices shall be submitted in accordance with Paragraph 1.6 "SCHEDULE OF PRICES".

SD-06 Test Reports

Daily Report to the Inspector shall be submitted in accordance with Paragraph 1.4 "DAILY REPORT TO THE INSPECTOR".

The following shall be submitted in accordance with Paragraph 1.18 "STARTING OF SYSTEMS":

Test Procedures
Functional Test Report

SD-07 Certificates

Contractor's Invoice shall be submitted in accordance with Paragraph 1.7 "CONTRACTOR'S INVOICE".

Salvage Material Records shall be submitted in accordance with Paragraph 1.17 "SALVAGE MATERIALS AND EQUIPMENT".

SD-10 Operation and Maintenance Data

Operation and Maintenance Manuals shall be submitted in accordance with Paragraph 1.20 "OPERATION AND MAINTENANCE DATA".

The following shall be submitted in accordance with Paragraph 1.20 "OPERATION AND MAINTENANCE DATA":

Preventive Maintenance and Inspection Instructions
Posted Instructions

SD-11 Closeout Submittals As-Built Drawings shall be submitted in accordance with Paragraph 1.21 "AS-BUILT DRAWINGS".

1.4 DAILY REPORT TO THE INSPECTOR

The Contractor shall deliver to the Contracting Officer a "Daily Report to the Inspector" on a form furnished by the Contractor. The form shall be completed daily and delivered to the Contracting Officer by 10:00 am on the next work day. Data to be reported shall include:

- a. Number of hours worked for the day.
- b. Cumulative total of hours worked on the contract.
- c. Number of workers by classification for the day.
- d. Work activities completed for the day.
- e. The move-on and move-off of construction equipment during the day, and whether furnished by the Contractor, Subcontractors, or the Government.
- f. Material and equipment delivered to the site during the day.
- g. Any significant events on the site during the day.

1.5 PROGRESS SCHEDULE

The Contractor shall prepare and submit to the Contracting Officer for approval a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the major salient features of the work, including acquiring materials and equipment. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. The Contractor shall:

- a. Submit the progress chart in three copies to the Contracting Officer for approval no later than 15 days after notice to proceed.
- b. Prepare the progress chart in the form of a bar chart utilizing a comparable format acceptable to the Contracting Officer.
- c. Include no less than the following information on the progress chart:
 1. Break out by major headings for primary work activity.
 2. A line item break out under each major heading sufficient to track the progress of the work.
 3. A line item showing final contract tasks which include punch-list, clean-up, O&M data, and As-Built drawings.
 4. The estimated cost and percentage weight of total contract cost for each line item on the chart. This shall be consistent with the Schedule of Prices.
 5. Separate line items for submittal preparation and reviews. These shall be consistent with the "Schedule of Submittals" required in Section 01401, "CONTRACTOR QUALITY CONTROL." Submittal preparation and reviews are to show no associated costs.
 6. Separate line items for mobilization and demobilization.
- d. Update the progress schedule in 3 copies every 30 days throughout the contract performance period. The updated schedule shall be submitted with the monthly payment request.

1.6 SCHEDULE OF PRICES

Within 15 days after notice to proceed, the Contractor shall submit, for approval by the Contracting Officer, on a form furnished by the Contractor,

a Schedule of Prices consisting of a detailed cost breakdown of the contract price for each definable feature of work. This shall include work item quantities, unit material and labor costs, and extended sub-totals. Unit costs shall include all project overhead and profit. Line items for Bonds, Mobilization and Demobilization are allowable. All cost items shall be accurate and reasonable and reflect pricing figures from the subcontractors actually performing the various items of work. Progress payments shall be evaluated and paid from the approved Schedule of Prices.

1.7 CONTRACTOR'S INVOICE

Requests for payment in accordance with the terms of the contract shall consist of:

- a. The Contractor's invoice on the form furnished by the Contracting Officer for this purpose shall show in summary form the basis for arriving at the amount of the invoice.
- b. The contract performance statement on the form furnished by the Contractor for this purpose and consistent with the approved Schedule of Prices, shall show in detail the estimated cost percentage of completion and value of completed performance for each definable feature of work. The format, content, and number of copies required will be prescribed by the Contracting Officer and will be subject to his/her approval.

No separate payments will be made for protection efforts necessitated by the safety provisions.

1.8 NORMAL DUTY HOURS

Normal duty hours for the Dryden Flight Research Center are from 7:30 am to 4:00 pm, Monday through Friday excluding holidays. The Contractor shall work during normal duty hours or outside normal duty hours as described in Section 01000 "SUMMARY OF WORK" Paragraph 1.6 "WORK HOURS". Requests to work outside the specified work hours shall require written approval from the Contracting Officer fourteen (14) days in advance of the proposed work period.

1.9 SPACE SHUTTLE MISSION

The primary landing site for most space shuttle landings is Kennedy Space Center, Florida; although Edwards/DFRC is always a stand-by secondary landing site. Beginning the seven (7) days prior to a scheduled shuttle launch and continuing through shuttle landing, all construction work must be approved by the Contracting Officer. The Contractor shall submit for approval a written work plan describing all elements of work scheduled during this period. Any work that is judged to potentially affect shuttle operations will be suspended during this period.

In the event of an occasional shuttle landing at Edwards/DFRC, all construction work during the period of the shuttle turn-around (usually about 7 days) must be approved by the Contracting Officer. The Contractor shall submit for approval a written work plan describing all elements of work scheduled during this period. Any work that is judged to potentially affect shuttle turn-around operations will also be suspended during this time period.

Space Shuttle landing schedules are subject to change and information can be obtained from the Contracting Officer. The Contractor will be given at least 14 days advanced notice of potential launch dates. Upon written request, the Contractor will receive time extensions for all Space Shuttle landing delays at no additional cost to the government.

1.10 PROJECT MEETINGS

1.10.1 Preconstruction Conference

The Contractor shall attend a preconstruction conference scheduled by the Contracting Officer. Work shall not commence prior to the conference. Discussion shall address project orientation, personnel contact, safety issues, permits, deficiencies, and the location of the Contractor's office.

1.10.2 Weekly Project Meetings

The Contractor shall attend weekly project meetings scheduled by the Government. Discussion shall address safety issues, quality control, submittals, progress schedule, schedule of submittals, as-built drawings, deficiencies, material delivery, permits, equipment delivery, invoices, potential factors of delay, request for information (RFIs), changes, and functional tests.

1.11 OCCUPANCY OF PREMISES

The buildings will be occupied during performance of work under this Contract. Before work is started, the Contractor shall arrange with the Contracting Officer a sequence of procedure, means of access, space for storage of materials and equipment, and use of approaches, corridors, and stairways. Government personnel will be allowed in the construction area to perform routine or emergency maintenance on building systems and equipment. This includes communication, electrical, mechanical, and fire protection systems.

1.12 TEMPORARY UTILITIES

Contractor shall provide temporary utilities required for construction. Materials may be new or used, shall be adequate for the required usage, shall not create unsafe conditions, and shall not violate applicable codes and standards.

1.12.1 Electricity

Contractor shall provide connections, sized to provide service required for power and lighting. Feeder and branch wiring with area distribution boxes shall be located so that power is available throughout the project site by use of power cords. 120/208 and 480 electrical volt feeder service is available. Lighting shall be provided by the Contractor. Electricity used will be furnished by the Government.

1.12.2 Water

Contractor shall make connections to existing facilities to provide water for construction purposes. Water used will be furnished by the Government.

1.12.3 Telephone Service

The Contractor shall provide telephone service for Contractor use. The Contractor shall pay costs of service. The Contractor shall coordinate with the Contracting Officer and NASA/DFRC telecommunications, at (661) 276-6346, to allow system coordination for emergency 911 services.

1.12.4 Sanitary Facilities

The Contractor shall provide temporary sanitary facilities and shall service, clean, and maintain these facilities and enclosures. Temporary facilities shall be removed from the site at the completion of the work. In addition, the Contractor may also use existing sanitary facilities during the construction period.

1.13 TEMPORARY STRUCTURES

Contractor-owned or leased trailers and temporary structures, where telephone service is installed and connected to 911 emergency system, shall be identified by Government assigned numbers. The required building number shall be furnished by the Government. The required building number shall be displayed on the structure on signs having brilliant blue background, white numbers, and of dimensions 18 inches by 36 inches. The signs shall be displayed on two sides of the structure at the upper left corner. The Contractor shall apply the number to the trailers within 14 days of placement, or sooner, if directed by the Government.

1.14 TRAFFIC PROVISIONS

The Contractor shall conduct operations in a manner that will not close any thoroughfare, or interfere in any way with traffic on railways or highways, except with written permission of the Contracting Officer. Contractor shall provide, erect, and maintain, at his own expense, lights, barriers, signals, passageways, detours, signs, and other traffic devices that may be required. Other than the above restrictions, the Contractor may move oversized and/or slow moving vehicles to the worksite provided all requirements of the State Highway Department have been met.

1.15 CONFORMANCE TO REFERENCED SPECIFICATIONS

Wherever in the various Sections of these specifications, material or equipment to be furnished or work to be done is required to conform to Federal Specifications, ASTM, AISC, ACI, SAE, or any other generally recognized authority, the latest revised edition of such specification in effect on the date of the solicitation shall apply.

1.16 MATERIAL AND EQUIPMENT

Shipments shall be addressed to the Contractor who shall be responsible for their receipt, unloading, handling, and storage at the site. The Government will not accept deliveries on behalf of the Contractor or Subcontractors or assume responsibility for security of materials, equipment, or supplies delivered to the site. The Contractor shall not have any material or equipment deliveries made to the DFRC shipping and receiving warehouse. The Contractor shall use the following address:

(Name of Contractor's firm or company)
P.O.C. (Name of Contractor's superintendent or other employee)
(Project title)
Dryden Flight Research Center
Edwards, CA 93524

The Contractor shall protect and preserve materials, supplies, and equipment of every description, including property which may be Government-furnished or Government-owned. Material to be salvaged and reinstalled by the Contractor shall be protected during removal and stored to prevent damage. Only material and construction equipment designated for performance of contract work may be stored at the construction site or located in Government-controlled areas.

Materials and equipment to be provided under this contract shall be standard catalogue products of manufacturers regularly engaged in the manufacture of the products. Material and equipment shall be installed in accordance with the requirements of the contract drawings and approved recommendations of the manufacturers.

1.17 SALVAGE MATERIALS AND EQUIPMENT

All items of materials designated by the Contracting Officer to be salvaged shall remain the property of the Government. Salvage items shall be marked, segregated, itemized, delivered, and off-loaded by the Contractor at the storage area near Building 4876.

The Contractor shall maintain adequate property control records for all materials or equipment designated as salvage. These salvage material records may be in accordance with the Contractor's system of property control, if approved by the Contracting Officer. The Contractor shall be responsible for adequate storage and protection of salvaged materials and equipment and shall replace, at no cost to the Government, salvage materials and equipment broken or damaged during salvage operations.

1.18 STARTING OF SYSTEMS

The Contractor shall perform formal functional tests with full documentation using the approved recording form. Test procedures and recording form that document the test steps shall be submitted for approval to the Contracting Officer twenty one (21) calendar days prior to the proposed test date. The procedure shall consist of step by step instruction to verify system parameters, components, and functions.

The Contractor shall perform an "in-house" test to verify that the system and components have been properly installed and are functioning properly. Test shall be performed in the presence of the Contracting Officer. Test shall be completed and found acceptable when one full test has been performed without component or system malfunction. The contractor shall submit a Functional Test Report documenting the actual steps and results of the test.

1.19 GOVERNMENT INSPECTION

Government in-process and end-item inspections will be performed at the construction site and/or at the Contractor's or subcontractor's facility by a designated Government representative to assure compliance with the contract requirements, drawings, and technical specifications. The extent of such inspection will depend upon the level of quality and workmanship of the items. The Contractor shall notify the Contracting Officer of scheduled inspections a minimum of 48 hours prior to such scheduled inspections. The Contractor shall give 24 hours advanced notice to the Contracting Officer of the date when the contract work will begin at the site to allow coordination with the inspection staff. Should the Contractor unexpectedly suspend work at any time prior to completion of the contract, the Contractor shall notify the Contracting Officer as soon as possible. If work is suspended for 3 days or longer, the Contractor shall not resume work without notifying the Contracting Officer 24 hours in advance.

1.20 OPERATION AND MAINTENANCE DATA

Submit five copies of the manufacturers' operation and maintenance (O&M) data for the components, assemblies, subassemblies, attachments, and accessories specified herein. Submit O&M data which is specifically

applicable to this contract and a complete and concise depiction of the provided equipment or product. Present information in sufficient detail to clearly explain user O&M requirements at the system, equipment, component, and subassembly level. Submit data specified for a given item within 30calendar days prior to testing the system involved. List personnel hazards and equipment or product safety precautions for all operating conditions. Submit in accordance with section entitled "SUBMITTALS".

Preventive Maintenance and Inspection Instructions shall be submitted by the Contractor with schedules that state when systems should be retested. Included shall be procedures for preventive maintenance, inspection, adjustment, lubrication and cleaning necessary to minimize corrective maintenance and repairs. The instructions shall inform operators how to check out, troubleshoot, repair, and replace components of the system. Instructions shall include electrical and mechanical schematics and diagrams and diagnostic techniques necessary to enable operation and troubleshooting of the system after acceptance.

Posted Instructions shall be submitted by the Contractor with labels, signs, and templates of operating instructions that are required to be mounted near the product for normal safe operations. Include a control sequence for each of these following operations: startup, shutdown, and post shutdown. Include a list of environmental conditions (temperature, humidity, and other relevant data) which are best suited for each product or piece of equipment and describe conditions under which equipment should not be allowed to run. Include lubrication data.

Operation and Maintenance Manuals shall be submitted by the Contractor and shall be consistent with the manufacturer's standard brochures, schematics, printed instructions, general operating procedures, and safety precautions. Information shall be bound in manual format and grouped by technical sections. Caution and warning indications shall be clearly labeled.

1.21 AS-BUILT DRAWINGS

1.21.1 Red-Marked Prints

The Contractor shall maintain at the jobsite one set of full-size contract drawings, marked in red to show any deviations which have been made from the contract drawings, including buried or concealed construction and utility features revealed during the course of construction. Record the horizontal and vertical location of all buried utilities that differ from the contract drawings. These as-built drawings shall be available for review by the Contracting Officer's Technical Representative at all times. Upon completion of the work, deliver the red-marked sets of prints to the Contracting Officer. Requests for partial payments will not be approved if the red-marked as-built drawings are not current, and request for final payment will not be approved until the completed As-Built Drawings are delivered to the Contracting Officer.

1.21.2 Electronic As-Builts (AutoCAD)

Request for final payment will not be approved until the completed As-Built Drawings are delivered to the Contracting Officer in electronic format, AutoCAD 2002 with all entities in model space and all external references bond to each drawing. Each drawing shall be autonomous with all blocks,

macros, functions and entities.

1.22 WARRANTY OF CONSTRUCTION

In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of one year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Government takes possession.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section -

ATTACHMENT C

**General Safety Requirements
Section 01411D**

PART 1 GENERAL

1.1 GENERAL SAFETY PROVISIONS

The requirements of this Section apply to, and are a component part of, each section of the specifications.

1.1.1 NASA's Commitment to Safety

The success of this historic agency starts with an unwavering commitment to safety. The culture of this institution is one of safe accomplishment of our missions, including construction projects. If something about this project, or any task, is unclear, it is required that you, the Contractor, ask for clarification. No activities on this project, or at this Agency, are important enough to compromise the safety of any person. If you suspect something isn't quite right, trust your instincts and your experience, and do something to correct the situation.

NASA's mission success starts with safety. A commitment to safety permeates everything we do. We are committed to protecting the safety and health of the general public, pilots and astronauts, the NASA workforce, and our high-value assets on and off the ground.

1.1.2 The Dryden Safety Culture

Safety at the Dryden Flight Research Center is of paramount concern. We assure a commitment to safety by employing systems and processes that ensure the safety of the public, the employees, and assets. We ensure safety in all aspects of personal endeavors and we are committed to ensuring the safety of others. We take ownership for safety. We know every accident is preventable. In the spirit of the Dryden Flight Research Center, the Contractor shall implement the safety provisions of this section to "make known the overlooked and unexpected" to keep all employees safe. The Contractor shall INSTRUCT ALL EMPLOYEES as to the hazards and the precautions to be taken in performance of this contract. The Contractor shall provide and maintain work environments and procedures which will safeguard Contractor employees, Subcontractors, the Public, Government personnel, and Government property, materials, supplies, and equipment exposed to Contractor operations and activities.

1.1.3 Construction Safety Goals

The safety provisions of this section are to be implemented by the Contractor so that:

- a. Everyone involved in this project goes home as healthy as they arrived.
- b. This construction work site is free of recognizable hazards.
- c. We have zero lost-time accidents.
- d. We have zero injuries in our workplace.

1.1.4 Construction Safety Strategy

In order to meet these goals every individual working onsite for the Contractor, including Subcontractors, Vendors and their employees, shall:

- a. Be involved in making this project safer.
- b. Know how to identify hazards.
- c. Know how to report hazards and get them fixed.
- d. Know their safety and health training needs, have obtained that training, and shall put the concepts to work each and every day while working on this project.

1.1.5 Compliance

The Contractor shall take safety and health measures in performing work under this Contract. The Contractor shall comply with all applicable federal, NASA/Dryden Flight Research Center (DFRC), and Edwards Air Force Base occupational safety and health requirements and standards. The Contractor shall take all precautions in the performance of work under this contract to protect the safety and health of the Contractor's employees, to protect the safety and health of all persons in or near the jobsite, and to prevent damage to property, materials, supplies and equipment. The Contractor shall comply with Federal OSHA Safety and Health Standards 29 CFR 1910 and 29 CFR 1926. The Contractor shall comply with the U.S. Army Corps of Engineers Safety and Health Requirements Manual in effect on the date of the solicitation.

1.2 REFERENCES

The publications listed below form a part of this section and are documents that must be complied with in the performance of this contract:

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

- | | |
|-------------|--|
| 29 CFR 1910 | Occupational Safety and Health Standards |
| 29 CFR 1926 | Safety and Health Regulations for Construction |

U.S. ARMY CORPS OF ENGINEERS (USACE)

- | | |
|----------------|--|
| COE EM-385-1-1 | (2003) U.S. Army Corps of Engineers Safety and Health Requirements Manual, most recent version in effect on the date of the solicitation |
|----------------|--|

The publications listed below form a part of this section to the extent referenced:

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

- | | |
|-----------------|---|
| NASA NPR 8621.1 | (2000) NASA Mishap Reporting, Investigating and Record Keeping Policy |
| NASA NPR 8715.3 | (2000) NASA Safety Manual |

NASA NSS 1740.12 (1993) NASA Safety Standard for Explosives, Propellants and Pyrotechnics

NASA STD 8719.11 (2000) NASA Safety Standard for Fire Protection

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

10 CFR 20 (2002) Standards for Protection Against Radiation

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

The following items shall be submitted in accordance with Paragraphs 1.3.1 "Accident Prevention Plan" and 1.3.2 "Activity Hazard Analysis" of this section. (See also Paragraph 1.4.1 "Documents at the Jobsite" of this section.)

Accident Prevention Plan, G

Activity Hazard Analysis, G

The following Requests for Permit shall be submitted in accordance with Paragraph 1.8 "PERMIT REQUIRED OPERATIONS" of this section.

Request for Excavation and Digging Permit, G

Request for Open Flame and Hot Work Permit, G

Request for Confined Space Entry Permit, G

Request for Utility Outage/Facility Closure Permit, G

Request for Crane Operation Permit, G

SD-07 Certificates

The following shall be submitted with the Contractor's "Daily Report to the Inspector" (see Section 01010 "Standard Requirements" Paragraph 1.4 "Daily Report to the Inspector") by 10:00 am the next work day in accordance with Paragraph 1.5.2 "Daily Safety Meetings/Daily Safety Inspections" of this section:

Safety Meeting/Safety Inspection sheets

Safety Meeting Attendance sheets

Confined Space Entry Training Certificates shall be submitted for all Confined Space Entry Attendants/Entry Supervisors prior to any

employees entering a confined space. (See also Paragraph 1.4.1 "Documents at the Jobsite" of this section.)

SD-08 Manufacturer's Instructions

Material Safety Data Sheets (MSDS), G
MSDSs for all chemicals and hazardous materials brought to the jobsite. MSDSs shall be submitted in accordance with Paragraph 1.3.3 "Material Safety Data Sheets (MSDS)" and Paragraph 1.14.2 "Chemicals and Hazardous Materials" of this section. (See also Paragraph 1.4.1 "Documents at the Jobsite" of this section.)

1.3.1 Accident Prevention Plan

The Contractor shall submit a written proposed **Accident Prevention Plan** before commencing the work. The Contractor shall submit this written Accident Prevention Plan to the Contracting Officer for approval. The Contractor shall submit this written Accident Prevention Plan within 15 calendar days after notice to proceed. The Accident Prevention Plan, written by the prime Contractor for the specific work and hazards of this contract, shall implement in detail the pertinent requirements of the US Army Corps of Engineers Safety and Health Requirements Manual. The plan shall define how the Contractor will comply with Federal OSHA Safety and Health Standards 29 CFR 1910 and 29 CFR 1926. Prior to initiation of work at the job site, the Contractor's **Accident Prevention Plan** shall be reviewed, found acceptable, and approved by the Contracting Officer.

The Contractor's **Accident Prevention Plan** shall be written and executed in accordance with the Occupational Safety and Health Administration requirements. Any deviation shall be coordinated with the Contracting Officer before being exercised.

The **Accident Prevention Plan** shall be NASA/DFRC site specific and include, as a minimum, the following:

- a. Safety program objectives.
- b. Methods to attain safety objectives.
- c. Responsibility of key personnel for the Contractor.
- d. Safety meetings, surveys, inspections, and reports.
- e. Disaster and emergency programs as it applies to the NASA/DFRC site.
- f. A map with the location and times of operation of the NASA/DFRC medical dispensary. (This information can be obtained from the Contracting Officer.)
- g. Lists of key personnel to be contacted in times of emergency, along with appropriate phone numbers to be used in emergencies.
- h. Program to show compliance with Federal OSHA Safety and Health Standards 29 CFR 1910 and 29 CFR 1926 and various safety requirements of NASA NPR 8715.3 and COE EM-385-1-1.
- i. Methods to comply with the requirement for immediate reporting of accidents to the Contracting Officer in accordance with NASA NPR 8621.1.
- j. Statement that the Contractor will not invalidate the integrity of safety systems without proper authorization.

- k. Procedures for emergency actions to be taken in the event of accident or an act of nature. This shall include procedures to secure dangerous conditions, protect personnel, and secure work areas. The plan must contain 911 telephone contact procedures specific to NASA/DFRC (See Paragraph 1.20 "FIRST AID AND EMERGENCIES" of this section).
- l. Procedures for securing the accident site so that the area remains secure until arrival of a safety investigator. Accident site will remain secured until released by the Contracting Officer.
- m. Procedures describing how chemicals, hazardous materials and hazardous wastes will be handled, managed and disposed of while at NASA/DFRC.
- n. Incorporate plans for the following, as applicable: Lockout/Tagout, Confined Space, Fire Prevention, Electrical Safety, and Fall Prevention/Protection.
- o. Incorporate a comprehensive site-specific heat stress monitoring plan. Drinking water shall be made available to workers and workers shall be encouraged to frequently drink small amounts; the water shall be kept reasonably cool.

1.3.2 Activity Hazard Analysis

Prior to beginning each Definable Feature of Work (DFOW), an **activity hazard analysis** shall be prepared by the Contractor performing the work. A DFOW is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new subcontractor or work crew is to perform. Work will not proceed on that phase until the **activity hazard analysis** has been accepted by the Contracting Officer and discussed with all engaged in the activity, including the Contractor, subcontractors, and government on-site representatives.

The **Activity Hazard Analysis** shall:

- a. define the activity to be performed and identify the sequence of work,
- b. define the specific hazards anticipated with the activity,
- c. define the control measures to be implemented to eliminate or reduce each hazard to an acceptable level,
- d. identify the equipment to be used,
- e. identify the inspection requirements for that equipment and activity, and
- f. list the training requirements for the workers.

1.3.3 Material Safety Data Sheets (MSDS)

Provide the Contracting Officer with a copy of the **Material Safety Data Sheets** for all chemicals and hazardous materials to be brought on site. All manufacturers' recommended precautions shall be followed during the use of any chemical and hazardous material. MSDSs must be submitted to the Contracting Officer for approval prior to the use of any chemical or

hazardous substance. See also Paragraph 1.4.1 "Documents at the Jobsite" and Paragraph 1.14.2 "Chemicals and Hazardous Materials" of this section.

1.4 SAFETY COMMUNICATIONS

Safety plans, hazard analyses, and MSDSs are only effective when the workers in the field are aware of the potential hazards for that day, and take mitigation measures to work safely in that area at that time. Therefore, daily safety communications are a critical requirement. Every work day shall begin with a brief safety meeting and every work day shall include a safety inspection by the Contractor's Site Safety Officer, see Paragraph 1.5.2 "Daily Safety Meetings/Daily Safety Inspections".

Also, prior to beginning any new DFOV the Contractor shall conduct an **Activity Hazard Analysis** on that new class of work and shall conduct a thorough discussion of that **Activity Hazard Analysis** with the workers performing the work. The Contractor shall ensure the workers understand the hazards and how to use any special tools, unique equipment, and personal protective equipment. Only after these safety analyses and communications occur shall the new class of work be allowed to proceed.

1.4.1 Documents at the Jobsite

To help maximize safety communications, the following list of documents shall be maintained on the jobsite and made easily available for the Contractor's employees and Subcontractors' employees. These records shall also be made available for Government inspection. They include but are not limited to:

- a. the approved **Accident Prevention Plan**,
- b. all approved **Activity Hazard Analysis**,
- c. all approved MSDSs,
- d. all approved permit documents for Permit Required Operations that have been completed,
- e. all records of lockout/tagout operations that have been completed,
- f. the jobsite OSHA 300 log,
- g. all training records, including **Confined Space Entry Training Certificates**, and
- h. other records that are deemed appropriate due to the nature of the work, i.e. certificates, permits, licenses, etc.

These records shall be stored at a convenient centralized location on the jobsite. These records shall be organized, filed, and labeled in binders or file folders in a fashion that all persons involved with the project can obtain the information quickly and easily.

1.4.2 Posted Warnings and Prohibitions

The Contractor shall comply with procedures prescribed for control and safety of all persons visiting the project site. The contractor shall install all barricades and signs needed. All points of entry to the project

site shall have a sign warning of the requirement to wear hard hats. The Contractor is responsible for familiarizing each employee and each subcontractor employee with safety requirements.

All Contractor personnel are to obey all posted prohibitions, restrictions, warnings, and traffic control signs and devices. Contractor personnel shall not enter any area in which a red light is flashing without permission of the NASA area supervisor. When alarm bells are sounded in a building, secure the equipment in use and leave the building by the nearest exit. An egress passage must be maintained at all times in the work area. The Contractor shall advise employees of these requirements.

The Contractor shall advise the Contracting Officer of any special safety restrictions the Contractor has established so that Government personnel can be notified of these restrictions.

1.4.3 Display of Safety Information

The Contractor shall erect a safety bulletin board at the job site within 2 calendar days after the Contracting Officer has approved the **Accident Prevention Plan**. The following information shall be displayed on the safety bulletin board in clear view of the on-site construction personnel, maintained current, and protected against the elements and unauthorized removal:

- a. Map denoting the route to the nearest emergency care facility.
- b. Emergency phone numbers.
- c. Copy of the most up-to-date **Accident Prevention Plan**.
- d. Current AHA(s) and MSDSs.
- e. OSHA 300A Form.
- f. OSHA Safety and Health Protection-On-The-Job Poster.
- g. Safety and Health Warning Posters.
- h. Active Permits.
 1. Excavation and Digging,
 2. Open Flame and Hot Work,
 3. Confined Space Entry,
 4. Utility Outages/Facility Closures
 5. Crane Operations.
- i. A sign indicating the number of years and days without a lost time construction accident at NASA's Dryden Flight Research Center.

1.4.4 TRAINING

1.4.4.1 New Employee Indoctrination

New employees (prime, subcontractor, vendors, and suppliers) onsite will be informed of specific site hazards before they begin work. Documentation of this orientation shall be kept on file at the project site.

1.4.4.2 Periodic Training

Provide Safety and Health Training in accordance with USACE EM 385-1-1 and the approved Accident Prevention Plan. Ensure all required training has been accomplished for all onsite employees.

1.4.4.3 Training on Activity Hazard Analysis (AHA)

Prior to beginning a new phase, training will be provided to all affected employees to include a review of the AHA to be implemented.

1.5 SAFETY MEETINGS AND INSPECTIONS

1.5.1 Mutual Understanding Meeting

Before commencing the work, the Contractor shall meet with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to administration of the overall safety program. Items to be discussed shall include: COE EM-385-1-1, hard hats/safety shoes, other personal protective equipment (PPE), daily safety meetings, activity hazard analysis, frequency of inspections, 911 communications, stopping of unsafe activities, permit required operations and MSDSs.

1.5.2 Daily Safety Meetings/Daily Safety Inspections

The Contractor shall conduct daily safety meetings at the beginning of each work shift. This safety meeting shall be administered by the Contractor's Site Safety Officer and/or Job Superintendent, or qualified designated representatives of these elements. This safety meeting shall be attended by all of the Contractor's employees, as well as all subcontractors and their employees working at the project site for that day. If any of these persons are not present at the daily safety meeting, they shall be briefed of the issues discussed in the meeting on an individual basis by the Contractor's Site Safety Officer prior to starting work at the site that day. The safety meeting format and discussion shall include, but not be limited to: the schedule of events on the site for the day; addressing hazard analyses for the day's activities; allowing employees and subcontractors to submit hazard analyses and MSDSs for upcoming activities; planning permit required operations; discussing unsafe conditions and near misses on the job site; discussing new equipment and material deliveries to the job site; discussing corrective actions to be taken and assignment of responsibilities for the implementation of those corrective actions.

The Contractor's designated Site Safety Officer shall, at least once per shift, conduct at least one walk-through site safety inspection of all site activities. This inspection shall be conducted at a random time during each shift. The Site Safety Officer's sole purpose during the walk-through shall be to ensure compliance with the approved Accident Prevention Plan, approved Activity Hazard Analysis, and approved MSDSs. Additionally the Site Safety Officer must ensure the workers receive feedback as to their safety effectiveness and compliance with safety procedures.

The Contractor shall use the attached Safety Meeting/Safety Inspection sheets and Safety Meeting Attendance sheets, or an approved equal, to report

the elements described herein. These sheets shall be submitted to the Contracting Officer on a daily basis by 10:00 am on the next work day, (with the Contractor's "Daily Report to the Inspector", see Section 01010 "Standard Requirements" Paragraph 1.4 "Daily Report to the Inspector").

1.6 CONTRACTOR VEHICLES AND EQUIPMENT

Edwards AFB access passes for Contractor owned vehicles are issued at the Military Security Police building (Building 2860) on the main base. A letter from the Contracting Officer is required along with proof of registration and insurance, as well as a valid driver's license.

Contractor-owned, leased, or operated equipment must be in satisfactory mechanical condition. Vehicle identification is required on both sides of all contractor vehicles, clearly identifying the contractor. While in use at the job site, rental equipment shall be kept in good working order and properly maintained. Contractor owned equipment brought on site must have copies of all operating air permits for the equipment.

Prior to a piece of rental equipment arriving on the job site, the Contractor shall present a hazard analysis for the use of the equipment. The hazard analysis shall include consideration for hazards associated with unloading, moving, and reloading the equipment. The Contractor is responsible to ensure that all employees working on or around that equipment are properly trained to use it and made aware of its associated hazards.

Hoisting and lifting devices and cranes must bear evidence of proof loading within the preceding 12 months. Operators of hoisting and lifting devices and cranes shall be trained in proper use and safety limitations. The Contractor shall provide written proof of qualification for all operators of fork lifts and personnel lifts (i.e. boom lifts, platform lifts, scissors lifts, etc.). Outdoor hoisting operations shall not commence if winds are above 20 knots (23 mph) steady state or if gusts exceed 35 knots (40 mph) and the Contractor shall also comply with the manufacturer's recommended operating limits; the more restrictive shall govern.

Crane operators shall meet the requirements in USACE EM 385-1-1, Section 16 and Appendix G. In addition, for mobile cranes, crane operators shall be designated as qualified by a source that qualifies crane operators (i.e., union, a government agency, or and organization that tests and qualifies crane operators). Written proof of current qualification shall be provided.

Contractor owned vehicles which will be driven on the flight line (aircraft hangars, aprons, ramps, tow-ways, and taxiways) must bear identifying signs and property damage insurance. Access to the flight line must be authorized by the Contracting Officer. The Contractor shall be responsible for performing daily inspections of these vehicles and shall secure, remove, or dispose of all foreign objects, materials, and debris that can cause damage to an aircraft. Objects and debris lodged between tire treads shall be removed prior to driving on the flight line. All vehicles which are permitted on aircraft maintenance ramps, fuel storage areas, fuel servicing areas, hangars, explosive areas, and any other fire hazard areas shall be equipped with an approved spark arrestor and authorized in writing by the Contracting Officer for use in these areas.

Operators of motor vehicles shall be licensed. Only Contractor work vehicles, delivery vehicles, and debris hauling vehicles, driven by licensed operators, will be allowed at the work site. Vehicles for transportation of

personnel or personal tools (commuting) must be parked in designated parking spaces in the DFRC parking lots.

The use of seat belts is mandatory by all operators and passengers traveling in motor vehicles on Edwards Air Force Base and NASA/DFRC. Passengers are prohibited from riding in or on the back or bed of any truck. The speed limit, unless otherwise posted, is 15 miles per hour. The security police use radar units.

Use of Government owned equipment, tools, supplies, or materials is prohibited unless specifically authorized by the Contracting Officer.

1.6.1 VEHICLE FOREIGN OBJECT DEBREE (fod) PREVENTION STEPS

Cars, trucks, trailers, and mobile service vehicles that have access to aircraft operational areas are a potential source of FOD. Prevention that should be taken includes:

- a. Regularly inspect all vehicles such as refueling trucks, supply trucks, contract vehicles, and maintenance vehicles that operate on the flight line and hangar areas for foreign objects.
- b. Before a vehicle is driven onto taxiways, runways, or into aircraft parking areas, the driver will stop and check that there are no rocks or pebbles caught in the tire treads and that the load is secure. The driver will also check pickup beds for loose tools, hardware, trash, and other debris.
- c. Vehicles must not be driven off the hard surface unless absolutely necessary. If it does become necessary to drive off to let an aircraft pass or for any other reason, the driver will once again check the load for security and the tires for foreign objects before re-entering the hard surfaced area. This does not apply to emergency vehicles responding to an emergency.
- d. All vehicles will enter and leave the flight line at controlled access points unless an emergency vehicle is responding to an emergency.

1.7 PROTECTION OF EXISTING UTILITIES

Existing utilities that are indicated, or the location of which is made known to the Contractor prior to beginning of operations, and utility lines constructed during the Contractor's operation, shall be protected from damage. If the Contractor damages any of these utilities they shall be repaired by the Contractor at no additional cost to the Government. In the event that the Contractor damages any existing utility lines that are not indicated or the locations of which are not known to the Contractor, report thereof shall be made immediately to the Contracting Officer. If the Contracting Officer determines that repairs shall be made by the Contractor, such repairs will be ordered under the clause of the general provisions of the contract entitled "Differing Site Conditions".

1.8 PERMIT REQUIRED OPERATIONS

The Contractor shall coordinate with the Contracting Officer and obtain written approval from the Contracting Officer on all *Permit Required Operations* before the operation begins. The Contractor shall initiate

coordination with the Contracting Officer by writing and submitting a Request for Permit. The Contractor shall provide, with the Request for Permit the following:

- a. Work Plan - A written work plan describing the work to be accomplished during the Permit Required Operation including a schedule to be followed. The schedule shall include the dates and time period the Contractor contemplates performing the operation.
- b. Activity Hazard Analysis - An activity hazard analysis of the proposed activities during the Permit Required Operation including the Contractor's plan to minimize or eliminate any hazards associated with the performance of the work. See paragraph 1.3.2.

The permits are primarily used to identify potentially hazardous work conditions in an attempt to prevent accidents. The permits are also used to coordinate the required work with key DFRC activities and keep customer inconvenience to a minimum. The permits shall be processed just prior to the start of the operation. Permit forms will be provided and filled out by the Government. The Contractor shall post approved permits at a conspicuous location in the construction area near the permitted operation. Upon completion of the Permit Required Operation a copy of the approved permit documents shall be stored at the jobsite in accordance with Paragraph 1.4.1 "Documents at the Jobsite" of this section. Permit required operations are:

1. Excavation and Digging,
2. Open Flame and Hot Work,
3. Confined Space Entry,
4. Utility Outages/Facility Closures, and
5. Crane Operations.

1.8.1 Excavation and Digging

Surface penetration, excavation, digging, and trenching are *Permit Required Operations*. Surface penetration, excavation, digging, and trenching operations must be approved by the Contracting Officer before operations begin. The Contractor shall obtain this approval by submitting a written Request for Excavation and Digging Permit in accordance with Paragraph 1.8 "PERMIT REQUIRED OPERATIONS". The Contractor shall submit this request to the Contracting Officer seven (7) calendar days prior to the start of digging operations, to enable the Contracting Officer to review measures being taken to prevent hazard to employees and possible damage to subsurface utilities.

The permit, a NASA - DRYDEN FACILITIES ENGINEERING WORK CLEARANCE REQUEST (Dryden form FM-8), must be filled out by the Government and attached to the Contractor's Request for Excavation and Digging Permit. This package must be reviewed and approved by several DFRC and USAF organizations prior to start of surface penetration, excavation, digging, or trenching. During this review and approval period the Contractor can proceed with marking and staking activities described below.

Prior to performing any surface penetrations, excavation, digging, or trenching 6 inches or deeper (including driving stakes more than 6 inches in the ground) on any ground surface, the Contractor shall obtain from the Contracting Officer the current subsurface utility drawing of the particular area to be worked on. All utility lines shall be identified and marked in

the field. The Contractor shall stake out, mark, paint lines, or other wise identify all subsurface pressurized gas pipes, high voltage cables, communication cables, other pipe lines, and other subsurface structures indicated within the area of the work before any surface penetration, excavation, digging, or trenching is done. After identification is complete, the Contractor shall obtain agreement from the Contracting Officer that identification is sufficient. After obtaining the approved permit package from the Contracting Officer and completing the marking and staking activities, the Contractor shall proceed with the excavating and digging operation in accordance with the approved permit documents.

The Contractor, however, shall temporarily halt any powered equipment digging and machine excavation work (i.e. backhoe, jackhammer, trencher, auger, etc.) when approaching within 10 feet of the staked-out/marked utility until the Contractor has exposed the utility by hand excavation to fix its location. The utility must be exposed using hand digging methods (i.e. "pot holing") with pick and shovel with care. The Contractor shall obtain agreement from the Contracting Officer on how much closer to the utility the machine excavations can be allowed. Powered equipment digging shall not be performed within 5 feet of any utility. All powered equipment must be positioned so that it cannot come any closer than 5 feet from the utility. Backhoes must be positioned so that when the arm is in the full extension it cannot come any closer than 5 feet to the utility and the arm must always be drawn away from the utility thus pulling material toward the operator and away from the utility.

1.8.2 Open Flame and Hot Work

The use of an open flame is a *Permit Required Operation*. Hot work such as welding, torch cutting, sawing metals, flame cutting, burning, grinding, brazing, soldering, and cad welding are all *Permit Required Operations*. Applying, installing, or removing building materials through the use of heat are also *Permit Required Operations*. Any operation that can result in the generation of hot flying debris or sparks is a *Permit Required Operation*. During operations involving possible fire hazard, the Contractor shall notify the Contracting Officer and not proceed until approval is obtained in writing. Open flame and hot work operations must be approved by the Contracting Officer before operations begin. The Contractor shall obtain this approval by submitting a written **Request for Open Flame and Hot Work Permit** in accordance with Paragraph 1.8 "PERMIT REQUIRED OPERATIONS". The Contractor shall submit this request to the Contracting Officer three (3) calendar days prior to the start of these operations, to enable the Contracting Officer to review measures being taken to prevent hazard to employees, prevent possible fire damage to equipment and property, and prevent unnecessary activation of fire suppression/alarm systems.

The permit, a USAF WELDING, CUTTING AND BRAZING PERMIT, (AF Form 592), must be filled out by the Government and attached to the Contractor's **Request for Open Flame and Hot Work Permit**. This package must be reviewed and approved by the Dryden Safety Office and approved by the Contracting Officer prior to start of open flame and hot work. After obtaining the approved permit package from the Contracting Officer, the Contractor shall proceed with the open flame and hot work operation in accordance with the approved permit documents. The Contractor or Subcontractor performing the operation shall sign the permit before any open flame and hot work operation is started. The Contractor shall also comply with the requirements stated below.

The Contractor shall discontinue open flame or hot work operations 30 minutes prior to the end of the normal work day. A Contractor employee shall be assigned as Fire Watchman for every open flame and hot work operation. The Watchman shall be equipped with suitable fire extinguishers

and shall check all areas around and below the welding or burning operation for fires. The check shall be continued for at least 30 minutes after completion of the open flame or hot work operation to ensure no possible sources of latent combustion.

The Contractor shall provide portable fire extinguishers for fire safety during open flame and hot work operations. When conducting open flame and hot work operations on roofs, the Contractor shall provide and be equipped with one full 20 pound 20-A:120 BC multipurpose dry chemical fire extinguisher and one 2.5 gallon water pressure/spray-pump type portable fire extinguisher placed within 30 feet of the operation. For all other open flame and hot work operations the Contractor shall provide and be equipped with one full 10 pound 4-A:60 BC multipurpose dry chemical fire extinguisher and one 2.5 gallon water pressure/spray-pump type portable fire extinguisher placed within 30 feet of the operation. The Contracting Officer may request a standby from the Edwards Fire Department; this accommodation does not relieve the Contractor of responsibility for open flame and hot work safety.

Upon completion of open flame or hot work operation (or expiration of Permit), the permit shall be returned to the government.

1.8.3 Confined Space Entry

Entering a confined space is a *Permit Required Operation*. Entering a manhole, underground vault, sewage pit, vessel, tank, subfloor area, or other confined space is a *permit required operation*. Safety clearance from the Contracting Officer is required before any Contractor personnel enter a manhole or vault or any other confined space. Entry must be assessed under Confined Space guidelines. Permit Required Confined Space regulations shall be followed during all confined space entries. Confined space operations must be approved by the Contracting Officer before operations begin. The Contractor shall obtain this approval by submitting a written **Request for Confined Space Entry Permit** in accordance with Paragraph 1.8 "PERMIT REQUIRED OPERATIONS". The Contractor shall submit this request to the Contracting Officer three (3) calendar days prior to the start of these operations, to enable the Contracting Officer to review measures being taken to prevent hazard to employees.

The permit, a CONFINED SPACE ENTRY PERMIT (forms DFRC-223, DFRC-224, and/or DFRC-225), must be filled out by the Government and attached to the Contractor's **Request for Confined Space Entry Permit**. This package must be reviewed and approved by the Dryden Safety Office and approved by the Contracting Officer prior to entry. After obtaining the approved permit package from the Contracting Officer, the Contractor shall proceed with the confined space operation in accordance with the approved permit documents. The Contractor shall also comply with the requirements stated below.

All work within manholes and other confined spaces shall be considered permit required confined space entry work, unless otherwise designated by the Contracting Officer. Contractor shall be responsible for removing water and debris before commencement and during execution of work in manholes and vaults. The Contractor shall have one or more confined space entry attendants/entry supervisors who are properly trained in the operation of gas monitoring equipment and formally qualified as confined space entry attendants/entry supervisors who shall be on duty during times workmen are in confined spaces. Their primary functions shall be to monitor the confined space. Gas monitoring shall be performed prior to entry and continuously when anyone is in the confined space. Readings shall be permanently recorded daily, indicating the concentration of gas, location and time the space was monitored.

Special requirements, coordination, and precautions will apply to areas that contain a hazardous atmosphere or, by virtue of their use or physical character, may be oxygen deficient. A breathing hazard check by the Government is required prior to entering areas that contain a hazardous atmosphere or, by virtue of their use or physical character, may be oxygen deficient. Surveillance and monitoring shall be required in these types of workspaces by both Contractor and Government personnel.

1.8.4 Utility Outages/Facility Closures

Turning a utility off or on is a *Permit Required Operation*. Closing a facility or part of a facility is a *Permit Required Operation*. Streets, walks, and other facilities occupied and used by the Government shall not be closed or obstructed without written permission from the Contracting Officer. Utility outages and facility closures must be approved by the Contracting Officer before outages and closures begin. The Contractor shall obtain this approval by submitting a written *Request for Utility Outage/Facility Closure Permit* in accordance with Paragraph 1.8 "PERMIT REQUIRED OPERATIONS". The Contractor shall submit this request to the Contracting Officer fourteen (14) calendar days in advance of the planned outage or closure, to enable the Contracting Officer to review measures being taken to prevent hazard to employees and the public, to prevent interruption of any required service, to coordinate the required work with key DFRC activities, and keep Center impact to a minimum.

The permit, a DRYDEN UTILITY SYSTEM OUTAGE APPROVAL (form DFRC-113), must be filled out by the Government and attached to the Contractor's *Request for Utility Outage/Facility Closure Permit*. This package must be reviewed and approved by the Dryden Safety Office, the Dryden Facilities Engineering & Asset Management Office, the affected Building/Area Manager, and the Contracting Officer prior to initiation of the outage or closure. Notification must also be made to the DFRC Security Office, the DFRC Information Systems Branch, and Center Management. After obtaining the approved permit package from the Contracting Officer, the Contractor shall proceed with the work requiring an outage or closure in accordance with the approved permit documents. The Contractor shall also comply with the requirements stated below.

The shut-down and start-up of the utilities for the outage shall be performed by the government and not the Contractor.

Contractors shall not shut down, shut off, disconnect, block, or otherwise impair any fire protection sprinkler system, fire hydrant, fire alarm system, special extinguishing or other installed fire protection system without an approved Dryden Utility Outage Approval (form DFRC-113).

1.8.5 Crane Operations

Operating a crane is a *Permit Required Operation*. Setting up a crane is a *Permit Required Operation*. Cranes shall not be operated without written permission from the Contracting Officer. Crane operations must be approved by the Contracting Officer before crane setup begins. The Contractor shall obtain this approval by submitting a written *Request for Crane Operation Permit* in accordance with Paragraph 1.8 "PERMIT REQUIRED OPERATIONS". The Contractor shall submit this request to the Contracting Officer seven (7) calendar days in advance of the planned crane operation to enable the Contracting Officer to review measures being taken to prevent hazard to employees and the public, to prevent interruption of any required service, to coordinate the required work with key DFRC activities, and keep Center impact to a minimum.

The permit, a CRANE OPERATION APPROVAL (form FD 8), must be filled out by the Government and attached to the Contractor's Plans. The contractor shall prepare the following plans/documents:

1. Description of Work,

List the work to be accomplished during the lifting operation

2. Center Impact Analysis,

List the affects this activity will have on Center occupants and Center operations, i.e. evacuate portions of a building, close a fire lane, require special secure access, close a building exit/entrance, etc.

3. Activity Hazard Analysis

Per paragraph 1.3.2.

4. Lift Plan

- a. The exact size and weight of the load.
- b. The maximum load limits for the entire range of the lift.
- c. Height of the lift.
- d. The lift geometry and sequence of actions.
- e. The load radius.
- f. The boom length and angle, for the entire range of the lift.
- g. Ground conditions and outrigger and mats requirements.
- h. A drawing showing the location of the crane and the "from" and "to" pick points, including adjacent buildings, utilities, and other obstructions or hazards.
- i. Rigging procedures and rigging hardware.
- j. Proof of qualification for the crane operator, **including a current physician's certificate that meets the requirements of EM 385-1-1, Appendix G (Procedures for the Examination and Qualification of Crane Operators).**
- k. Environmental conditions under which lift operations are to be stopped.
- l. Communication and coordination requirements.
- m. The Contractor shall make Personnel Assignments and clearly list by name who will be the Lift Director, Crane Operator, Signalman, Rigger, and Tag Line Persons.
- n. The Contractor shall also complete the Crane Safety Checklist prior to commencing lifting operations.
- o. The Contractor shall perform a practice pick without the load to verify estimated boom angle(s) required to pick, rotate, and set the load.

This package must be reviewed and approved by the Dryden Lift Supervisor and the Chief of Facilities Engineering & Asset Management Office prior to

initiation of the crane setup. The Chief of Facilities Engineering & Asset Management Office will assign the Lift Supervisor. Notification must also be made, by NASA project personnel, to the DFRC Security Office, the DFRC Safety Office, and Center Management prior to lifting operations. After obtaining the approved permit package from the Contracting Officer, the Contractor shall proceed with the crane operation in accordance with the approved permit documents.

Crane Safety Checklist for Facility Lifts:

Things to check

1. Crane certifications and documents have been checked and are current, including:
 - a. Current physician's certificate.
 - b. Insurance.
 - c. Pre-lift Safety Meeting minutes.
2. Operator certifications have been checked and are current.
3. Ancillary lifting equipment certifications (slings, chokers, etc.) are current.
4. Boom angle needed to reach both pick point and set points have been checked and capacity of the crane (AT THOSE BOOM ANGLES) is sufficient to lift the intended load.
5. Capacity of the crane at the horizontal angles required for the pick, rotation, and set have been checked against crane manual and capacity is sufficient for the intended load. (Note: Some cranes, especially crawler cranes that don't have outriggers, DO NOT have the same capacity to the side that they do to the front.)
6. There is sufficient room for crane counterweights to miss all obstructions when the crane rotates horizontally.
7. Clip on crane hook has sufficient spring tension.
8. All people in area are wearing hard hats and safety shoes.
9. Person who is signaling crane operator has been designated and everyone understands who that person is for this operation
10. Lift Supervisor has been designated and everyone understands who that person is for this operation.
11. Personnel handling tag lines have been designated and they understand that they are not allowed under the load.
12. Ground where outriggers are set has sufficient capacity to resist "punching shear" force which is generated from load and expected geometric configuration of crane.
13. Check for overhead electrical lines within boom radius + 20 feet. Brief the Chief, Facilities Engineering & Asset Management Office on proposed mitigation procedures.
14. Check for underground vaults, tanks, or utilities near the crane location that might collapse or shift causing the crane to shift or sink while under load.
15. Ensure the lifting/hazardous zone is delineated clearly to public (use cones, caution tape, fencing, or other.)

Things to do

1. Practice pick shall be made prior to actual lift in order to verify estimated boom angle(s) required to pick the load, rotate the load, and set the load. (Note: This is done without the load.)

1.9 ELECTRICAL SAFETY

The Contractor shall appoint an individual person to be responsible for jobsite electrical safety and to restrict entry to dangerous locations to those authorized by the Contractor jointly with the Government. Lockout/Tagout controls will be strictly enforced.

When ever possible, all lines, circuits, and equipment to be worked on shall be de-energized before work is started. If equipment or circuits cannot be de-energized, the Contractor shall provide all necessary personal protective equipment and other protective controls to work on energized lines, circuits, and equipment. **Additionally, approval from the Contracting Officer shall be obtained by the Contractor prior to performing work on energized lines, circuits, and equipment.**

The Contractor shall use Ground Fault Circuit Interrupters (GFCI) in all circuits used for electric tools and equipment in the construction site. The Contractor shall use GFCIs in all circuits used for temporary lighting in the construction site. GFCIs shall be installed in accordance with the most recent edition of the National Electric Code.

1.10 LOCKOUT & TAGOUT PROCEDURES

The Contractor shall ensure that each employee is familiar with and complies with 29 CFR 1910.147. Specific Lockout/Tagout requirements are as follows:

- a. The tags shall be the same for both lockout and tagout, and shall only be used once. The information on the tag shall be printed legibly.
- b. For lockout the information shall include - name of person controlling the lock, the date the lock was put in place, telephone number of the person controlling the lock, name of the Project Inspector monitoring the work, name of the company serving as prime contractor for the work, and the name of the company for which the lock control person is employed.
- c. For tagout, the above information is required plus an explanation of why a lock could not be used, and what additional safety precautions were used.

The above information shall be documented, and the record made available for inspection. Upon completion of the Lockout/Tagout Operation the documents shall be stored at the jobsite in accordance with Paragraph 1.4.1 "Documents at the Jobsite" of this section.

1.11 FIRE PREVENTION

Any fire hazard conditions shall be immediately reported to Contracting Officer. Any fire emergency situation shall be reported by calling 911 or the NASA/DFRC Security Post #1 at (661) 276-3256. Contractor vehicles must not block or encroach upon fire truck lanes at any time. The Contractor shall provide temporary fire protection equipment for the protection of personnel and property during construction.

All work sites shall be kept clean and orderly at all times. Combustible scrap, debris, and waste materials (oily rags, paper, packaging, scrap wood, etc.) shall be stored in covered metal receptacles and removed from the worksite daily to minimize potential hazards. Flammable and combustible

materials shall be stored in a manner which minimizes the risk of fire including spontaneous combustion. "No Smoking" signs shall be posted in areas where flammable or combustible material are stored.

Only **UL-approved** containers and tanks shall be used for storage and handling of flammable and combustible liquid. All flammable and combustible liquids shall be kept in closed containers when not in use. Bulk drums of flammable or combustible liquids shall be grounded and bonded to containers during dispensing. The Contractor shall provide and be equipped with one full 10 pound 4-A:60 BC multipurpose dry chemical fire extinguisher placed within 20 feet where flammable/combustible liquids are stored.

The Contractor shall ensure the following are complied with when pressurized cylinders are on the jobsite:

- a. Cylinder contents shall be identified with a label.
- b. All cylinders shall be stored in an upright position at all times.
- c. Cylinders shall be secured at all times.
- d. Cylinders not in use shall have valve protector caps in place.

Smoking is not permitted in buildings or on roofs. Smoking is permitted in approved designated areas only. Smoking materials shall be disposed in an approved receptacle.

Nonspark producing tools and equipment or pneumatic type shall be utilized in fire hazardous areas such as hangars and other explosive environment areas. Burning of trash or rubbish is prohibited.

Dispensing of flammable and combustible liquids is not permitted in buildings or on roofs.

1.12 HIGH NOISE LEVEL PROTECTION

Operations performed by the Contractor that involve the use of equipment with output of high noise levels (jackhammers, drill hammers, generators, tractors, saws, air compressors, and explosive activated tools, etc.) shall be scheduled for weekends and/or outside normal duty hours. Contractor operations that result in noise levels above 60 dBA in any occupied buildings (offices, laboratories, control rooms, hangars, etc.) and are disruptive to NASA/DFRC business operations shall be performed on weekends or outside normal duty hours. Use of any such equipment shall be approved in writing by the Contracting Officer prior to commencement of work. (Normal duty hours defined in Section 01010 "Standard Requirements", Paragraph 1.8 "Normal Duty Hours")

Contractor personnel working at NASA/DFRC may need to wear hearing protection as a result of normal aircraft operations. Sonic boom shock waves are a normal everyday occurrence at NASA/DFRC that cause momentary surprise to personnel. The Contractor shall instruct all employees to be aware of this hazard, especially working outdoors at heights

1.13 SEVERE STORM PREPARATION

In the event of a severe storm warning, or indications of impending severe weather (e.g. dust storms, damaging wind, heavy rains, floods, tornados,

hail, or lightning) the Contractor shall monitor weather conditions and take appropriate precautions including but not limited to:

- a. Secure outside equipment and materials and place materials possible to damage in protected locations.
- b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.
- c. Ensure that temporary erosion controls are adequate.
- d. Secure materials and equipment that should not be exposed to, or contaminated with, dirt and dust to protect the materials and equipment from damage. This includes mechanical, electrical, and electronic equipment to ensure their function is not compromised. This also includes materials that have aesthetic purpose to ensure appearance is not damaged.

1.14 HAZARDOUS WASTE AND MATERIALS

When working with hazardous waste and materials, Contractor personnel must wear or use personal protective articles such as protective clothing, respiratory devices, protective shields, etc., appropriate to the task being performed. Provisions are to be made by the Contractor for continuous contact with personnel working with hazardous waste/materials in remote areas.

1.14.1 Hazardous Waste and Industrial Waste Water

The Contractor shall identify all wastes produced, including chemicals, paints, industrial wastewater, Petroleum/Oil/Lubricant (POL) products and solvents, and their containers, and dispose of them in approved manners. Unknown wastes will be chemically identified by the Contractor. Obtain a determination of whether the waste is hazardous from the Contracting Officer. Notify the Contracting Officer prior to taking disposal action for any hazardous waste.

For disposal, provide either laboratory analysis data documenting the chemical content of the waste or certification by appropriate organization or authority as to the chemical constituents of the waste. Document the waste type, quantity, location, and personnel/contractor/agency responsible so the material can be tracked from generation through ultimate disposal as required by Environmental Protection Agency under Resource Conservation and Recovery Act.

1.14.2 Chemicals and Hazardous Materials

No chemicals and no hazardous materials such as explosives, flammables, sources of ionizing radiation, corrosives, or toxic substances may be brought onto NASA/DFRC premises without authorization from the Contracting Officer. Provide the Contracting Officer with a copy of the **Material Safety Data Sheets** (MSDSs) for all chemicals and hazardous materials to be brought on site. All manufacturer recommended precautions shall be followed during the use of any chemicals and hazardous material. MSDSs will be required of all substances deemed to be hazardous by the Contracting Officer. MSDSs must be submitted to the Contracting Officer for approval prior to the use of any chemicals and hazardous substance. Explosives shall not be used or

brought to the project site, with the exception of powder actuated tools and equipment.

1.14.3 Asbestos, Lead Paint, and PCBs

Any work in or around asbestos containing material (ACM) or suspect ACM, including but not limited to insulation; fire proofing; ceiling tiles; flooring materials; roofing materials; or transite, gypsum board, plaster and hollow cell walls, must be approved by the Contracting Officer prior to commencing work.

The use of any construction materials containing asbestos is prohibited.

In the event suspect ACM is identified, and was not previously identified, the contractor shall immediately cease work in the vicinity and inform the Contracting Officer.

Any work involving the disturbance of lead based paint or suspect lead based paint must be approved by the Contracting Officer prior to commencing work.

In the event suspect lead based paint is identified, and was not previously identified, the contractor shall immediately cease work in the vicinity and inform the Contracting Officer.

The use of any paints containing lead or zinc chromate is prohibited.

Any work involving the disturbance of PCBs must be cleared through the Contracting Officer.

1.14.4 Radiation Requirements

Use of equipment containing radioactive isotopes or any nuclear sources such as density test, moisture detectors, radiography, etc. must be approved by the Dryden Safety Office and the Contracting Officer. If such equipment is to be used in the work, the Contractor must notify the Dryden Safety Office through the Contracting Officer no less than 14 days prior to the use of such equipment. During the use of such equipment the Dryden Safety Office is authorized to make periodic checks to insure that proper health precautions are being followed. If the Dryden Safety Office determines that these precautions are not being followed, the Dryden Safety Office will immediately notify the Contracting Officer to initiate corrective actions.

1.15 BARRICADING WORK AREAS

Areas made hazardous to workers, project personnel, the public, or other persons by Contractor operations shall be barricaded as follows:

a. All lay down areas, excavations, breaks in roads, breaks in floors, and similar conditions shall be barricaded to prevent injury to personnel and reduce the possibility of damage to moving equipment. The Contractor shall continuously barricade all lay down areas, excavations, breaks in roads, breaks in floors, and similar conditions with temporary vertical chain link fencing or vertical plywood fencing.

b. When the lay down areas, excavations, breaks in roads, breaks in floors, and similar conditions are within 20 feet of the edge of roads, parking lots, and pedestrian routes, the Contractor shall furnish and install battery powered flasher type warning lights on a maximum spacing

of not less than one flasher every 15 feet on at least one side of any excavation or opening.

c. Steel plates used to cover excavations in roadways shall be sufficient to safely support all vehicle loads.

d. Identify and flag all fire sprinkler heads when using ladders in work area.

1.16 FALL HAZARDS

When work is performed at heights which expose workers, project personnel, the public, or other persons to falling objects, such areas shall be barricaded, restricted, or protected.

When work is performed at heights which expose workers, and inspectors to falls, the Contractor shall provide fall protection. The Contractor shall check with the Contracting Officer before commencing roofing work or any activity on a roof and shall ensure safe work conditions. When working from an aerial lift workers shall use a body harness and lanyard system appropriately attached to the boom or basket.

Each employee on a walking/working surface 6 feet or more above lower levels shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system

1.17 PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

All construction areas at DFRC are considered hard hat areas. All persons working on or visiting the project site shall wear **hard hats (ANSI Z89.1 Type I or Type II)**.

All Contractor employees and Subcontractors shall wear clothing suitable for the weather and work conditions. The minimum for field work shall be short sleeve shirt, long trousers, and **steel-toed safety boots (ANSI Z41)**.

For purposes of inspecting the work under this contract, the Contractor shall provide personal protective and safety equipment to the Government inspector for use during inspections. This includes but is not limited to body harnesses, lanyards, lifelines, ladders, aerial lifts, respirators, safety glasses, face shields, shade lenses, etc. This does not include hard hats and steel-toed safety boots.

1.18 ENVIRONMENTAL PROTECTION

The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract shall be protected during the entire period of this contract.

1.18.1 Desert Tortoise Protection

The Desert Tortoise is a federally endangered species, and the Contractor shall ensure that they are protected throughout the project site. The superintendent and all contract employees involved in earthwork operations

shall view a NASA training film about the Desert Tortoise, approximately 1 hour long. The Contractor shall take extreme care to protect the Desert Tortoise when in the clean soil disposal site.

1.18.2 Cultural Resource Protection

In the event cultural or historical materials are found during the performance of this contract, work will cease immediately in the find area and the Contracting Officer shall be notified accordingly.

1.18.3 Air Quality

The Contractor's operations shall satisfy air quality requirements for Kern County Air Pollution Control District, including permits for all temporary, portable construction equipment with a rated engine over 50 bhp.

1.18.4 Water Quality

The Contractor's operations shall satisfy water quality requirements for the Lahontan Regional Water Quality Control Board.

1.19 DUST CONTROL

The Contractor shall maintain excavations, embankments, stockpiles, temporary roads, plant sites, waste areas, borrow areas, and other work areas within or beyond the project site free from dust which would cause a hazard or nuisance to others. Methods of stabilization consisting of water sprinkling, chemical treatment, light bituminous treatment or similar methods will be permitted to control dust. Sprinkling shall be repeated at such intervals as to keep the disturbed area damp at all times. Dust control shall be performed as the work proceeds and whenever a nuisance or hazard occurs.

When the jobsite is inside an occupied building, the Contractor shall provide and install dust barriers to control dust movement so that dirt and dust does not migrate out of the construction site and into occupied sections of the building. Any corridors, offices, and other rooms that become contaminated by dirt and dust migrating from the Contractor's activity shall be cleaned, dusted, and vacuumed by the Contractor at no expense to the Government.

1.20 FIRST AID AND EMERGENCIES

The contractor shall maintain a 16-unit first aid kit on the job site clearly located and marked. The Contractor's Site Safety Officer shall inspect the kit every work day; see Paragraph 1.5.2 "Daily Safety Meetings/Daily Safety Inspections".

Contractor personnel who sustain injury or become ill, on-site during normal duty hours, may be examined and/or given first aid treatment at the NASA/DFRC Dispensary in Building 4822, telephone (661) 276-3258 or (661) 276-3570. Outside normal duty hours the Contractor is responsible for first aid treatment of employees and transportation to a medical facility off-site. All injuries sustained on-site must be reported to the Contracting Officer whether treated at the NASA/DFRC facility or elsewhere. (Normal

duty hours are defined in Section 01010 "Standard Requirements" Paragraph 1.8 "NORMAL DUTY HOURS".)

Emergency telephone numbers and reporting instructions shall be conspicuously posted at the job site. Fire, rescue, and first aid are available by contacting 911 on a NASA/DFRC telephone. If a NASA/DFRC phone is not available in an emergency, call Security post 1 at (661) 276-3256 and clearly explain the emergency. A direct 911 contact cannot be made by use of a personal or cellular phone. To summarize, in an emergency from a:

- | | | |
|-------------------------------|------|----------------|
| a. NASA/DFRC phone | dial | 911 |
| b. Personal or Cellular phone | dial | (661) 276-3256 |

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

ATTACHMENT D
Soils Engineering Report

REQUIREMENTS CHECKLIST

				Vendor proposal Section, Paragraph & Page No.	Comments/Reason for Exceptions
		Will Comply	Can Not Comply		
SECTION B	SUPPLIES OR SERVICES AND PRICES/COSTS				
SECTION C	DESCRIPTION/SPECIFICATIONS/WORK STATEMENT				
1.1	GENERAL DESCRIPTION				
1.2	CONTRACT DRAWINGS				
1.3.1	GFE (Government Furnished Equipment)				
1.3.2	GENERAL REQUIREMENTS				
1.3.3	GENERAL SAFETY REQUIREMENTS				
1.4	SITE WORK & DEMOLITION				
1.4.1	SITE PREPARATION				
1.4.2	GEOTECHNICAL INVESTIGATION				
1.4.3	SEWER LEACH LINES				
1.4.4	EXCAVATE CAISSONS				
1.4.5	MISCELLANEOUS DEMOLITION				
1.5	CONCRETE				
1.5.1	CONCRETE SUBMITTALS				
1.5.2	CAISSON ANCHORAGE				
1.5.3	FORMING				
1.5.4	STEEL REINFORCEMENT				
1.5.5	EMBEDDED ITEMS				
1.5.6	CONCRETE MATERIALS				
1.5.7	CONCRETE PLACEMENT				
1.5.8	CONCRETE FINISH				
1.5.9	CONCRETE WASH-OUT				
1.6	MASONRY				
1.7	METALS				
1.7.1	CABLE TRENCH COVER				
	WORK PLATFORM & ACCESS BRIDGE				
1.7.2	PRIMARY FRAMING MEMBERS				
1.7.3	SECONDARY FRAMING MEMBERS				
1.7.4	STEEL DECKING				

				Vendor proposal Section, Paragraph & Page No.	Comments/Reason for Exceptions
		Will Comply	Can Not Comply		
1.7.5	SAFETY RAILING				
1.8	WOOD AND PLASTICS				
1.9	THERMAL MOISTURE PROTECTION				
1.10	DOORS AND WINDOWS				
1.11	FINISHES				
1.11.1	EXTERIOR PAINTING				
1.12	SPECIALTIES				
1.13	EQUIPMENT				
1.13.1	CRANK UP ANTENNA TOWERS				
1.13.2	ANTENNA CABLE RETRACTOR UNITS				
1.14	SPECIAL CONSTRUCTION				
1.15	MECHANICAL				
1.16	ELECTRICAL				
1.16.1	GENERAL				
1.16.2	CONDUIT				
1.16.3	BOXES				
1.16.4	CONDUCTORS				
1.16.5	ANTENNA CABLE TRAYS				
1.16.6	CONNECT UP ANTENNA TOWER HOIST MOTORS				
1.16.7	GROUNDING SYSTEM				
1.16.8	LIGHTING SYSTEM				
1.16.9	LIGHTNING PROTECTION				
1.17	DESIGN SERVICES				
1.17.1	REQUIRED SERVICES				
2.1	COMPLIANCE				
2.2	INCORPORATION				
2.3	ENVIRONMENTAL				
2.4	LABOR REQUIREMENTS				
2.4.1	DAVIS-BACON ACT				
3.1	THE 15% CONCEPT STUDY				
3.2.1	THE 30% EARLY PRELIMINARY DESIGN				
3.2.2	FUNCTIONAL REQUIREMENTS				
3.2.3	SUFFICIENCY AND SOUNDNESS				

				Vendor proposal Section, Paragraph & Page No.	Comments/Reason for Exceptions
		Will Comply	Can Not Comply		
3.2.4	THE 60% PRELIMINARY DESIGN				
3.2.5	FINAL DESIGN				
3.2.6	THE ADVANCE FINAL DESIGN 90%				
4.1	REQUIREMENTS FOR DESIGN DOCUMENTS				
5.1	PERFORMANCE OF WORK				
5.2	PROJECT MANAGER				
5.3	MEETINGS				
5.4	TRAVEL				
5.5	NON-DESTRUCTIVE TESTING				
5.6	INTERFERENCE				
5.7	ASBESTOS AND LEAD PAINT				
5.8	INITIATION OF WORK				
5.9	DESERT TORTOISE				
C.6	FORMAT AND CONTENT OF SUBMITTALS				
SECTION D	PACKAGING AND MARKING				
SECTION E	INSPECTION AND ACCEPTANCE FAR CLAUSES BY REFERENCE				
SECTION F	DELIVERIES AND PERFORMANCE				
SECTION G	SUBCONTRACT ADMINISTRATION DATA				
SECTION H	SPECIAL SUBCONTRACT REQUIREMENTS				
SECTION I	SUBCONTRACT CLAUSES				
SECTION J	LIST OF DOCUMENTS, EXHIBITS, AND ATTACHMENTS				
SECTION K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENT OF SUPPLIERS				
SECTION L	INSTRUCTIONS, CONDITIONS AND NOTICES TO OFFERORS				
L.1	PREPARATION OF OFFERS				
L.2	SITE SURVEY				
L.3	OFFEROR RESPONSES				
L.4	PROPOSAL SUBMISSION				
	VOLUME I - Business Proposal				
	VOLUME II - Technical Proposal				
	VOLUME III - Past Performance				
L.5	FAR CLAUSES				

				Vendor proposal Section, Paragraph & Page No.	Comments/Reason for Exceptions
		Will Comply	Can Not Comply		
L.6	PROCUREMENT POINT OF CONTACT (BUYER)				
L.7	FALSE STATEMENTS IN OFFERS				
L.8	PROPOSAL DELIVERY				
L.9	HANDLING OF PROPOSAL CONTENT				
L.10	DEBRIEFINGS				
L.11	EXCEPTIONS				
L.12	PROPOSAL - REQUIRED CONTENT				
L.13	PROPOSAL VALIDITY				
SECTION M	EVALUATION FACTORS FOR AWARD				