

National Aeronautics and
Space Administration

Langley Research Center
100 NASA Road
Hampton, VA 23681-2199



Reply to Attn of:

It is important that you furnish the information requested below and return this sheet by the earliest practicable date. Failure to respond may result in removal of your firm from our bidders source files.

DO NOT RETURN ENTIRE PACKAGE

IFB/RFP No. 1-039-GH.0981

- I intend to submit a Bid/Proposal.
- I do not intend to submit a Bid/Proposal for this solicitation for the following reason(s).

Company Name: _____

Address: _____

Authorized Signature: _____ Date: _____

Typed Name and Title: _____

RETURN TO:

National Aeronautics and Space Administration
Langley Research Center
Attn: Industry Assistance Office, M/S 144
Hampton, VA 23681-2199

NASA

National Aeronautics and Space Administration

Langley Research Center
Hampton, Virginia 23681-2199

SOLICITATION

1-039-GH.0981

REQUIREMENT : RESEARCH EQUIPMENT OPERATIONS SERVICES

1. This requirement is NOT a small business set-aside; however, the Contracting Officer has established a small business subcontracting goal of 16%, inclusive of a small disadvantaged business participation target of 5%. (Ref. Section L, Provision L.12.)
2. Section L, Provisions L.15, L.16 and L.17 contain important information on proposal preparation. Section M sets forth the method of evaluation for award.
3. Offerors shall submit the original, ten (10) hard-copies, and two (2) electronic copies on 3-1/2 diskettes of each proposal volume in accordance with Block 9 of the Standard Form (SF) 33. In addition, one (1) copy of the proposal shall be sent directly to the cognizant DCAA office with a cover letter referencing the solicitation number that appears in Block 3 of the SF 33.
4. The Government intends to award the contract resulting from this solicitation without discussions. See Section L provision entitled INSTRUCTIONS TO OFFERORS—COMPETITIVE ACQUISITION (FAR 52.215-1) (OCT 1997). To facilitate this process, we would like to avoid situations where proposals include substantive exceptions to the proposed contract terms and conditions, which might be unacceptable to the Government and, therefore, preclude award. Therefore, it is requested and strongly recommended that you immediately bring to the Government's attention any exceptions, questions, or additions you have to the proposed contract terms and conditions. The resolution of any exceptions to terms and conditions prior to receipt of proposals will aid the Government in its intention to award without discussions and thus streamline the procurement process. In the event that the Government later determines discussions are necessary, the Contractor's attention is hereby directed to Section M, Provision M.1, Method of Evaluation.
5. A pre-solicitation conference was held on January 6, 1999. Attachment 13 includes the attendees list and most of the viewgraphs that were presented at the conference. Some of the viewgraphs included photographs and schematics that could not be provided electronically. Offerors that desire hard copies of these viewgraphs should contact the Contract Specialist identified in Section L, Provision L.8.
6. This solicitation is being distributed electronically in an attempt to streamline the procurement process. For offerors downloading responsibilities, see Section L, Provision L.13, Electronic Solicitation.
7. The applicable SIC Code for this procurement is 8744.
8. Since the entire solicitation is available electronically, a bidder's library is deemed unnecessary.
9. Section L, Provision L.15, Proposal Page Limitations (NASA 1852.215-81) (FEB 1988), includes a 75 page limitation for the Technical Volume. This limitation includes all tables, figures and graphics. **PAGES SUBMITTED IN EXCESS OF THE LIMITATIONS SPECIFIED IN THIS PROVISION WILL NOT BE EVALUATED BY THE GOVERNMENT AND WILL BE RETURNED TO THE OFFEROR.**

NOTICE: THE IDENTITIES OF FIRMS SUBMITTING PROPOSAL IN RESPONSE TO THIS RFP WILL NOT BE RELEASED UNTIL AFTER SELECTION AND CONTRACT AWARD.

| | | | | | |
|--|---|--|---|----------------------------------|---|
| SOLICITATION, OFFER AND AWARD | | | 1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700) | RATING DO - C9 | PAGE OF PAGE(S) 1 1099 |
| 2. CONTRACT NO. | 3. SOLICITATION NO. 1-039-GH.0981 | 4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP) | | 5. DATE ISSUED 3/17/99 | 6. REQUISITION/PURCHASE NO. GH.0981 |
| 7. ISSUED BY National Aeronautics and Space Administration Langley Research Center Hampton, VA 23681-2199 | | | 8. ADDRESS OFFER TO (If other than Item 7) 9A Langley Boulevard, Building 1195B, Room 125 NASA, Langley Research Center Hampton, VA 23681-2199 | | |

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder"

SOLICITATION

3. Sealed offers in original and **10** copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in **9A Langley Boulevard, Building 1195B, Room 125** until **4 p.m.** local time **4/30/99**.
CAUTION LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-10. All offers are subject to all terms and conditions contained in this solicitation.

| | | | | | |
|---------------------------|---------------------------------|-------------------------------------|---------------------------|------|---|
| 10. FOR INFORMATION CALL: | A. NAME R. Todd Lacks | B. TELEPHONE NO. (NO COLLECT CALLS) | | | C. E-MAIL ADDRESS r.t.lacks@larc.nasa.gov |
| | | AREA CODE 757 | NUMBER 864-2477 | EXT. | |

11. TABLE OF CONTENTS

| (x) | SEC. | DESCRIPTION | PAGE(S) | (x) | SEC. | DESCRIPTION | PAGE(S) |
|------------------------------|------|-------------------------------------|-----------|---|------|--|------------|
| PART I - THE SCHEDULE | | | | PART II - CONTRACT CLAUSES | | | |
| X | A | SOLICITATION/CONTRACT FORM | 1 | X | I | CONTRACT CLAUSES | 27 |
| X | B | SUPPLIES OR SERVICES AND PRICE/COST | 2 | PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH. | | | |
| X | C | DESCRIPTION/SPECS./WORK STATEMENT | 3 | X | J | LIST OF ATTACHMENTS | 49 |
| X | D | PACKAGING AND MARKING | | PART IV - REPRESENTATIONS AND INSTRUCTIONS | | | |
| X | E | INSPECTION AND ACCEPTANCE | 19 | X | K | REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS | 167 |
| X | F | DELIVERIES OR PERFORMANCE | 19 | X | L | INSTRS., CONDS., AND NOTICES TO OFFERORS | 177 |
| X | G | CONTRACT ADMINISTRATION DATA | 19 | X | M | EVALUATION FACTORS FOR AWARD | 189 |
| X | H | SPECIAL CONTRACT REQUIREMENTS | 22 | | | | |

OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

| | | | | |
|---|----------------------------------|----------------------------------|----------------------------------|-------------------------------|
| 13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8) | 10 CALENDAR DAYS (%) % | 20 CALENDAR DAYS (%) % | 30 CALENDAR DAYS (%) % | CALENDAR DAYS (%) % |
| 14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated: | AMENDMENT NO. | DATE | AMENDMENT NO. | DATE |
| | | | | |

| | | | | |
|----------------------------------|---|----------|---|----------------|
| 15A. NAME AND ADDRESS OF OFFEROR | CODE | FACILITY | 16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print) | |
| 15B. TELEPHONE NUMBER | <input type="checkbox"/> 15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. | | 17. SIGNATURE | 18. OFFER DATE |
| AREA CODE | NUMBER | EXT. | | |

AWARD (To be completed by Government)

| | | | | |
|---|------------|---|------|----------------|
| 19. ACCEPTED AS TO ITEMS NUMBERED | 20. AMOUNT | 21. ACCOUNTING AND APPROPRIATION | | |
| 22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c) () <input type="checkbox"/> 41 U.S.C. 253(c) () | | 23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) | ITEM | |
| 24. ADMINISTERED BY (If other than Item 7) | CODE | 25. PAYMENT WILL BE MADE BY Financial Management Office, MS 175 Langley Research Center Hampton, VA 23681-2199 | | CODE |
| 26. NAME OF CONTRACTING OFFICER (Type or print) | | 27. UNITED STATES OF AMERICA (Signature of Contracting Officer) | | 28. AWARD DATE |

IMPORTANT: Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

TABLE OF CONTENTS

SOLICITATION/CONTRACT FORM.....1

PART I - THE SCHEDULE.....2

 SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS2

 SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT3

 SECTION E - INSPECTION AND ACCEPTANCE.....19

 SECTION F - DELIVERIES OR PERFORMANCE19

 SECTION G - CONTRACT ADMINISTRATION DATA.....19

 SECTION H - SPECIAL CONTRACT REQUIREMENTS22

PART II - CONTRACT CLAUSES27

 SECTION I - CONTRACT CLAUSES27

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS49

 SECTION J - LIST OF ATTACHMENTS49

PART IV - REPRESENTATIONS AND INSTRUCTIONS167

 SECTION K - REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF
 OFFERORS177

 SECTION L - INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS189

PART I - THE SCHEDULE

SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

B.1 ITEMS TO BE FURNISHED

Research Equipment Operations Services – The Contractor shall provide all resources (except as may be expressly stated in this contract as furnished by the Government) necessary to furnish the services described in CLIN's 1 through 3 and in Section C, Description/Specifications/Work Statement. The applicable CLIN's are as follows:

Contract Line Item Number (CLIN) 1 – FLUID SYSTEMS: Work includes the operation of Compressed Air Production and Distribution Systems, Reclamation Systems for Heavy Gas and Helium, Nitrogen and Methane Compression Systems, Nitrogen Delivery Truck Services, and Off-Loading Services. The specific requirements for CLIN 1 are contained in Section C. The work covered by this CLIN requires no written work request for the contractor to proceed with performance. All of the work described in Section C for CLIN 1 shall begin on the effective date of the contract, September 1, 1999.

CLIN 2 – MECHANICAL/ELECTRICAL DRIVE SYSTEMS: Work includes the operation of Main Drive Systems for the 16 FT Transonic Tunnel, Unitary Plan Wind Tunnel, Transonic Dynamics Tunnel, 0.3 Meter Transonic Cryogenic Tunnel, Scramjet Test Facility and the duties of Power Dispatcher. The specific requirements for CLIN 2 are contained in Section C. The work covered by this CLIN requires no written work request for the contractor to proceed with performance. All of the work described in Section C for CLIN 2 shall begin on the effective date of the contract, September 1, 1999.

CLIN 3 – NATIONAL TRANSONIC FACILITY (NTF) SUPPORT: Work includes support for the operation of the NTF Wind Tunnel including tasks associated with specific wind tunnel research tests, routine tasks in support of the facility and related systems, including support of improvements to NTF processes and the facility. The specific requirements for CLIN 3 are contained in Section C. Efforts to support improvements to processes and the facility systems will be initiated by Task/Test Request (TTR). All the work described in Section C for CLIN 3 shall begin on the effective date of the contract, September 1, 1999.

GENERAL REQUIREMENTS (SECTION 2.0) AND ROUTINE MAINTENANCE AND CORRECTIVE REPAIRS (SECTION 4.0): Work described in these two sections of the Statement of Work are on-going and apply to all three CLIN's. Accordingly, the cost for performing the services in these sections shall be charged to CLIN's 1, 2, or 3, as applicable.

B.2 LEVEL OF EFFORT

A. In the performance of work under this contract, the Contractor is obligated to provide up to 105,188 direct productive labor hours, including subcontract hours, as defined in Paragraph B below.

B. Direct productive labor hours are defined as those productive hours expended by Contractor and subcontractor personnel in the performance of the direct support functions required to complete the requirements as defined in Section C. It does not include hours for the Contract Manager, administrative positions, or other labor that the Contractor may charge as direct labor under its established accounting policies and procedures. It does not include sick leave, vacation, holiday leave, military leave, or any type of administrative leave. It does include overtime hours and direct labor hours provided under subcontracts. It does include all hours expended by first-line supervisors or team/group leaders even though they may be dual-functioned positions.

B.3 ESTIMATED COST AND FIXED FEE (NASA 1852.216-74) (DEC 1991)

The estimated cost of this contract is \$_____ exclusive of the fixed fee of \$_____.
The total estimated cost and fixed fee is \$_____.

B.4 CONTRACT FUNDING (NASA 1852.232-81) (JUN 1990)

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

(b) An additional amount of \$_____ is obligated under this contract for payment of fee.

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT**C.1 STATEMENT OF WORK – RESEARCH EQUIPMENT OPERATIONS SERVICES**

1.0 **INTRODUCTION:** The objective of this procurement is to provide operational and maintenance services for the research systems and equipment of Langley Research Center (LaRC). These systems and equipment are designated *critical systems*, many of which are located in configuration controlled facilities. Section 3.0, Operations, includes three (3) Contract Line Item Numbers (CLINs): Fluid Systems, Drive Controls, and NTF Operations. The NTF Operations subsection is in its entirety because of the interaction of procedures that do not allow division into fluid systems and drive controls, and the inclusion of NTF specific requirements. Section 4.0, Routine Maintenance and Corrective Repairs applies to all systems described in the Operations section. This Statement of Work (SOW) is limited to the facilities listed herein; however, additional facilities and operations capabilities at LaRC and at other NASA Centers may be added pursuant to the “Changes” clause.

2.0 **GENERAL REQUIREMENTS:** The Contractor shall perform the work required in accordance with the following subsections:

2.1 **Configuration Management.** The contractor shall perform the work required in accordance with Langley Handbook (LHB) 1740.4, *Facility System Analysis and Configuration Management* (or latest revision)- Provides general accomplishment of pre-operation, operation and post-operation tasks and implementation requirements for use and handling of Configuration Controlled Documents, Parenthetic Drawings, Procedures, and Safety Analysis Reports.

2.2 **Configuration Control Documents.** Individual facility operations support will be conducted in accordance with mandatory requirements such as configuration controlled standard operating procedures (SOPs), integrated operating plans (IOPs), and checklists. The Contractor is responsible for generating new checklists and procedures for system modifications, new equipment, and continuous process improvements.

2.3 **Equipment under Manufacturer's or Installer's Warranty.** Equipment, components, and parts, other than those installed under this contract, shall not be removed or replaced or deficiencies corrected while still under warranty of the manufacturer or the installer without prior approval of the Contracting Officer Technical Representative (COTR). The Contractor shall be responsible for tracking equipment, component and part warranties on those items that are installed during the term of this contract. All defects in material or workmanship, defective parts, or improper installation and adjustments found by the Contractor shall be reported to the COTR within three (3) working days from discovery so that necessary action may be taken.

2.4 **As Built Drawings.**

(a) Drawings of facility and associated equipment/systems are maintained in the LaRC Engineering Drawing Files, Building 1130T2. Copies of these drawings are available to the Contractor for review.

(b) All changes or additions to facilities made by the Contractor shall be recorded and provided to the COTR within 30 calendar days of the completed work. These data shall include, but

are not limited to; dimensioned drawings, red lined drawings, and/or sketches which shall depict the actual completed work.

- (c) LHB 1740.3, Section 6, *Configuration Management Program*, lists 47 high-risk facilities/systems under configuration control. When the Contractor makes a change to one of these 47 facility/systems a Change Notification Sheet (CNS) shall be prepared and submitted to the COTR for approval prior to initiation of the change.
- (d) Standards. All work shall meet the standards specified herein and shall be accomplished in conformance with approved and accepted standards of the industry; equipment manufacturers; all applicable LaRC, local, state, and federal standards; and all applicable facilities and safety codes. For construction projects and some repair work, NASA uses the SPECSINTACT system, which is an automated specification processing, storage and retrieval system for preparing contract documents. SPECSINTACT includes all of the specifications and standards used at LaRC for existing and planned facilities construction and for non-recurring maintenance and repair work.

2.5 Interface With Government Personnel and Other Contractors.

- 2.5.1 Facility Maintenance. At LaRC, a seven (7) zone structure has been established to assign facility maintenance management responsibility. The zones are as follows:

- 1, 2, and 3 – Research Facilities
- 4 – Research Laboratories/Shops
- 5 – Major Utilities
- 6 – Institutional Building/Facilities
- 0 – Other Center Wide Systems

- (a) Zone Management Organization. Zones 1, 2, 3, 4, and 6 have Zone Maintenance Managers (ZMM) and Assistant Zone Maintenance Managers (AZMM); and Zones 0 and 5 have a ZMM only. The ZMM and AZMM are Government employees who manage and coordinate all maintenance, repair and construction activities within the respective zone. However, the Contractor shall coordinate all facility and equipment related activities with the Facility Manager/Facility Coordinator who will coordinate the work through the ZMM or AZMM. The COTR will provide a list of ZMMs and AZMMs within ten calendar days following contract award.
 - (b) Facility Coordinator. Within ten calendar days following award of this contract, the COTR will provide the Contractor with a list of Facility Coordinators. The Contractor shall notify the Coordinator of any work to be performed in a building under the Coordinator's control. The Contractor shall notify the Coordinator at least two working days in advance of such scheduled work. Notification shall include the location of the work, type of work to be done, and the estimated completion date. The Contractor shall reschedule any work that the COTR/Coordinator deems necessary to avoid unacceptable disruptions in the Government's business.
- 2.5.2 Safety Interfaces. All safety-related concerns fall under the jurisdiction of the Facility Safety Head. In assuring that a safe work environment is maintained, the Contractor will respond to the guidance of the Facility Safety Head.

In the event of an emergency situation at the National Transonic Facility, the Contractor will interface with the Facility Safety Head and with the Group Leader of established emergency teams. Further definition of interactions between the Facility Safety Head, the Emergency Team Group Leader, and the Contractor is provided throughout this SOW document.

- 2.5.3 Facility Manager. Many facilities at NASA Langley operate under the leadership of a Facility Manager. At these facilities, the Contractor must interface with the Facility Manager as required to assure efficient and productive operation of the facility. These interactions between the Facility Manager and the Contractor are discussed in further detail throughout this SOW document.
- 2.5.4 Test Engineer. To a large extent, the day-to-day work requirements at Langley facilities are specified and/or modified by the test engineer. This is particularly true at many of the wind tunnel facilities. This work direction from the test engineer requires that some interaction occur directly with the Contractor in order to assure that the test effort is supported in an efficient manner. Several examples where a direct interface between test engineers and the Contractor is necessary are specified in this SOW document.
- 2.5.5 Cooperation with Other Contractors. Other contractors and/or Government personnel are engaged in similar and supporting work, requiring close cooperation. The Contractor shall cooperate with Government personnel and all other contractors and avoid conflicts with other's performance and work schedules. Under no circumstances shall additional work be performed at the request of unauthorized Government personnel or another contractor without proper approval of the Contracting Officer (CO)/COTR.

The Contractor shall be responsible for familiarizing each of his subcontractors with all requirements (this includes administrative as well as technical) of the contract. The Contractor shall be responsible for coordinating the work of his subcontractors or suppliers to prevent any interference or omission whatsoever. The divisions or sections of the specifications shall not be interpreted as limiting or defining the work for purposes of dividing the work among subcontractors, or to limit the work performed by any trade.

The Contractor shall be responsible to the Government for acts and omissions of its own employees and of subcontractors and their employees. The Contracting Officer will not undertake to settle any differences between the Contractor and his subcontractors, or between subcontractors. All business pertaining to the contract shall be conducted through the Contractor. If the Contractor specifically authorizes in writing a subcontractor to act as his agent, he shall state the specific authority conferred. The Contractor shall also be bound by any agreement made between the agent acting within the scope of his authority and the Government.

The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work. The Contractor shall conduct his work so as not to impede or interfere with the work of such other Contractors or persons engaged in or about the site.

The Contractor shall not endanger any work of any other contractors by cutting, excavating or otherwise altering any work of any other contractor, except with the written consent of the CO.

In the event of conflicts with Government personnel or other contractors that cannot be satisfactorily resolved, the matter shall be referred to the Contracting Officer for decision. Such decisions shall be final, subject to right of appeal in accordance with the Section I clause entitled, "DISPUTES."

- 2.6 Notice of Equipment Shutdowns. Prior approval shall be obtained from the COTR, except in emergencies, for work requiring shutdown of equipment. All such requests must be submitted at least 72 hours in advance. In cases where shutdown is urgent or an emergency, the Contractor shall coordinate the shutdown with the Facility Coordinators in the affected facilities.

- 2.7 Electrical Power, Steam and Water (Utilities) Outages. The Contractor shall shutdown, restart, and perform operational checks on all equipment affected by both scheduled and unscheduled utilities outages. The Contractor shall inform the COTR as far in advance as time permits of dates, times, facility(s), and equipment/system(s) that will be affected by such utilities outages. The Contractor shall coordinate all scheduled utility outages with the Facility Coordinators of affected facilities.
- 2.8 Hazardous Materials. The requirement for the purchase of hazardous materials and hazardous materials inventory are included in LHB 1710.12, *Potentially Hazardous Materials*, and LAPG 8800.1, *Environmental Program Manual*. The Contractor shall have access to the LaRC internet for hazardous materials inventory and tracking purposes. The Government will provide e-mail accounts for all inventory managers. The Contractor shall use the Chemical Materials Tracking System (CMTS). For emergency tasks, the Contractor shall be granted a waiver to purchase hazardous materials prior to obtaining approval through the Government process. The Contractor shall purchase only materials needed for the specific task and shall enter the approval forms for the purchase within three working days of the purchase.

The Contractor shall be responsible for handling, removing, and packaging for disposal, hazardous materials including asbestos, polychlorinated biphenyls (PCBs), coatings and corrosion control waste, and contaminated waste oil as encountered in the performance of this contract. This work shall be performed in accordance with applicable federal, state, and local regulations. The Contractor shall provide all information the Government deems necessary to comply with reporting requirements. Disposal of hazardous waste will be by other Government contractors.

- 2.9 Housekeeping. The Contractor shall keep work areas and associated equipment free of waste materials, oil, trash and other debris on a daily basis.
- 2.10 Handling/Protection Of Contractor Material And Equipment. The Contractor shall be responsible for receipt, security, unloading, handling, and storage of all shipments of materials and equipment associated with this contract. The Government will not accept deliveries on behalf of the Contractor or his subcontractors, nor assume any responsibility for security of materials, equipment or supplies delivered to the site. The Contractor shall at all times protect and preserve all contractually required materials, supplies, and equipment (including Government-furnished or -owned property).
- 2.11 Safety Requirements and Reports.

Safety Requirements. The Contractor will comply with all federal, state, and local regulations, including those imposed by Federal Agencies with regulatory authority over NASA in specific areas (e.g., Department of Labor's Occupational Safety and Health Administration, Nuclear Regulatory Commission, Department of Transportation, etc.) as well as NASA's safety and health requirements, including the LaRC *Safety Manual*. A Safety Plan must be submitted and approved before work is to begin.

Safety Clearance Procedures (Red Tag). NASA Red Tag and Lockout System shall be used as necessary to prevent electrical switches, air and fluid valves, or similar devices from being operated when any operation could result in injury to personnel or serious damage to equipment. The Contractor shall provide permitted Safety Operators to perform Safety Clearance Procedures in accordance with policies and procedures in LAPG (Langley Procedures and Guidelines) 1710.10, *Safety Clearance Procedures (Red Tag)*.

Employees delegated the responsibilities of a Safety Operator to perform LaRC Lockout/Tagout tasks are subject to random unscheduled drug testing. The contractor is responsible for this testing in accordance with Langley Procedure Directive (LPD) 3792.3, Drug-Free Workplace, and NASA Management Instruction (NMI) 3792.3B, NASA Plan for Drug Free Workplace.

The Contractor shall perform red tagging procedures to secure systems and equipment in the performance of this contract for the Government and other contractors. Included are electrical systems up to 13,800 volts, high-pressure systems up to 12,000 PSI (See LHB 1710.40 Safety Regulations Covering Pressurized Systems) and various mechanical systems and equipment including, for example, those involving hydraulics and high vacuum. This tagging is considered to be a part of the operations and routine maintenance being performed by the Contractor.

Accidents. The Contractor shall report to the COTR, and the Office of Safety and Facility Assurance, exposure from any hazardous substance, possible exposure from any hazardous substance, and all accidents resulting in death, trauma, occupational disease, serious bodily injury, or environmental damage. All accidents shall be reported to the COTR as soon as practicable, but no later than 4 hours after occurrence during regular working hours, or no later than 24 hours after occurrence after regular working hours. The Contractor must complete a mishap report to the Office of Safety and Facility Assurance.

Damage. In the event of damage to Government property, the Contractor shall submit to the COTR a full report of the damage. All damage reports shall be submitted within 24 hours of the occurrence.

Emergency Procedures. The Contractor shall ensure that its employees know appropriate procedures for reporting any accident, security violation, or emergency situation.

- 2.12 Facilities. Maintenance and operations services will be performed primarily at facilities in the east and west areas of LaRC, however, the Contractor also shall deliver liquid nitrogen within an approximate one-mile radius of LaRC. The Contractor shall provide operations and maintenance services in the following areas:

Drive Control Systems

Unitary Plan Wind Tunnel (UPWT), Building 1251
Drive Control, Building 1241 for the 16 foot Transonic Tunnel, Building 1146
Transonic Dynamics Tunnel (TDT), Building 648
Frequency Converter Building, Building 1235, for Scramjet Test Facility, Building 1247B, and
0.3 Meter Transonic Cryogenic Tunnel, Building 1242

Fluid Systems

8 foot High Temperature Tunnel, Building 1265
Heavy Gas Reclamation System, Building 648
Helium Reclamation Facility, Building 1247B
Nitrogen Pumping Facility, Building 1277
Air Compressor Plant, Building 1247E

Other Operations

National Transonic Facility (NTF), Building 1236
National Transonic Facility (NTF), Ancillary Equipment, Building 1236

- 2.13 Shift Requirements. The following Table summarizes the normal shift requirements in each research facility requiring support. The hours stated will provide for continuous operation of facility systems and equipment as required to support research operations. Additional hours of operation may be required to meet research objectives. The shift requirements listed are for weekdays, excluding holidays:

| Building Number | Number of Shifts | Normal Operating Hours | Notes |
|-----------------|------------------|------------------------|----------------|
| 1251 | 1 | 7:00 AM – 3:30 PM | |
| 1241/1235 | 3 | 10:00 PM – 10:00 PM* | *Sunday-Friday |
| 648 TDT Drive | 2 | 7:30 AM - 11:15 PM | |
| 648 Heavy Gas | 3 | 3:00 AM – 11:30 PM | |
| 1277 | 1 | 6:30 AM – 3:00 PM | |
| 1265 | 1 | 6:30 AM - 3:00 PM | |
| 1247B | 1 | 7:00 AM – 3:30 PM | |
| 1247E | 2 | 7:00 AM – 11:30 PM | |
| 1236 | 2 | 7:00 AM – 11:45 PM | |

The Contractor shall be responsive to all requirements by providing qualified operators when the Government gives the following notice:

Daily Overtime – 2 hour notice. (e.g. Day is extended beyond normal operating hours)

Additional Shifts – Previous day notice (e.g., Contractor will be notified on Friday for Saturday work or e.g. 24 hr operation for 1 week to support a special research effort).

3.0 **OPERATIONS:** The following sections describe the requirements for the operation of Fluid Systems, Mechanical/Electrical Drive Systems, and NTF Operations requirements for this contract.

General Requirements:

Safety Operator Certification. Safety Operators shall be certified in accordance with the policies and procedures of LAPG 1710.10, *Safety Clearance Procedures (Red Tag)*

Operational Emergencies. Operational emergencies, such as ruptured mains, loss of compressors, etc., that present unsafe conditions, or which results in a change in the plant's reliability or capacity shall be reported within thirty (30) minutes (immediately, in the case of unsafe conditions) of the occurrence to the COTR. The Contractor shall identify the probable cause for the reduction and the estimated time to restore the system to full capacity.

3.1 CLIN 1- Fluids Systems. The Contractor shall be responsible for the effective and efficient operation of the fluids operations facilities in accordance with LHB 1710.12, *Potentially Hazardous Materials*. These systems, in addition to mechanical and electrical components, include elevated and underground piping, fittings, valves, insulation and lagging, pipe hangars, anchors, conduit and manholes, structural supports and other related items. For the purpose of this contract, a fluid is a liquid or gas, including compressed air and other gasses.

The operation of the fluids operations plants includes the start-up and shutdown of system equipment. The Contractor shall operate the fluid compressor, pumping and dispensing facilities safely, efficiently and economically to assure timely and sufficient fluid availability to the Government at the lowest possible cost. The Contractor shall maintain system pressures at their required levels as designed and intended in their respective system design. The Contractor shall proactively identify to the COTR all system abnormalities upon detection and initiate remedial action in accordance with approved operator maintenance procedures.

The Contractor shall maintain daily operations logs for each research facility support system to which an operator is assigned and shall record data, including equipment instrument readings, operator tasks assigned, routine maintenance performed, and emergency conditions. The Contractor shall keep all operation logs and records orderly, up-to-date and readily accessible to

all authorized Government officials at any time. The Contractor shall turn the logs and records over to the CO upon expiration or termination of the contract period.

- 3.1.1 Compressed Air Production and Distribution Systems. The Contractor shall operate the entire compressed air distribution system to provide, at no greater than -40° F dewpoint, a continuous acceptable pressure of between 350 and 5,800 psig (as required depending on needs). The compressed air distribution system originates at the Central Compressor Plant (Building 1247E) and extends to various research facilities throughout LaRC. The Contractor shall operate the back-up service air compressors located in East area Building 643, configured to operate if the pressure in the 350 psi air line drops below 100 psi.

The following routine maintenance actions shall be performed weekly on the service air compressor in Building 643:

1. Perform visual inspection.
2. Check oil level, add if required.
3. Start system and operate for 30 minutes once a month.
4. Report any discrepancies.

The Contractor shall operate and monitor compressors and related equipment identified in accordance with the operational procedures and checklists contained in the approved Operation Procedures Plan (see Exhibit B.1.B). The Contractor will be notified by personnel in the High Pressure Air Control Room, Building 1247D, of the research facility air requirements for the coming week. The Contractor shall maintain adequate pressure and supply volume air available to meet research requirements. The Contractor shall maintain system pressures at their required levels as designed and intended in their respective system design.

The Contractor shall use the following standard operating procedures and checklist:

01-PR-1, *Pre-Operational Procedure, Dryer Preparation*
 01-PR-2, *Pre-Operational Procedure, Comp. Preparation*
 01-PR-3, *Pre-Operational Procedure, Air Sys. Valve Crossover*
 01-OP-1, *Operational Procedure, Comp. Opn*
 01-PO-1, *Post-Operational Procedure, Comp. Shutdown*
 01-CL, *Operations Checklists; Compressor and Dryer Preparation, Operation & Shutdown Procedure to Ready Oraid (Green) Air Dryer*
Start-Up & Shut-Down Procedures for Ingersoll-Rand (Green) Air Compressor
Procedure to Ready G.D.i. (White) Air Dryer
Start-Up & Shut-Down Procedure for Worthington (White) Air Compressor

- 3.1.2 Reclamation Operations for Heavy Gas and Helium Reclamation Systems. The Contractor shall operate, monitor and provide routine maintenance for the heavy gas (R134a) handling system and related equipment associated with the Transonic Dynamics Tunnel, Building 648. The Heavy Gas Reclamation System consists of a vaporizer, low temperature condenser, vacuum pumps, compressors, dryers, and a liquid storage vessel required for the evacuation, vaporization and liquefaction of heavy gas as a test medium. The Contractor shall also operate, periodically test, and troubleshoot false alarms for the O₂ and R134a monitoring systems located in Building 648. The reliabilities of the O₂ and R134a monitoring systems are critical for the safety of the personnel located at the TDT. The Contractor shall interface with the test engineer to obtain the desired test configurations and to adjust test conditions during facility operations.

The Contractor shall operate, monitor and provide routine maintenance for helium compressors and related equipment located in Building 1247B. Facility systems consist

of compressors for the evacuation and purification of helium, as well as the air/nitrogen evacuation and liquid nitrogen pumping equipment.

The Contractor shall use the following standard operating procedures and checklists:

27-PR-1, *Evacuation, Compressor and Purification Systems, Pre-Operational Procedures*
 27-OP-1, *Evacuation, Compressor and Purification Systems, Operational Procedures*
 27-PO-1, *Evacuation, Compressor and Purification Systems, Post-Operational Procedures*
 27-CL-CRO, *60-Inch Mach 18 Helium Tunnel Helium Recovery System, Checklist*
 27-CL-EO, *60-Inch Mach 18 Helium Tunnel Helium Recovery System, Checklists*
 92-PR, *22-Inch Mach 20 and Mach 18 Quiet Helium Tunnels Helium Recovery System, Pre-Operational Procedure*
 92-OP, *22-Inch mach 20 and Mach 18 Quiet Helium Tunnels Helium Recovery System, Operational Procedure*
 92-PO, *22-Inch Mach 20 and Mach 18 Quiet Helium Tunnels Helium Recovery System, Post-Operational Procedure*
 92-CL-EO-1, *Checklist, Equipment, Operator Basement Start-Up*
 92-CL-EO-2, *Checklist, Equipment, Operator Basement Shut-Down*
 92-CL-CRO, *Checklist, Control Room Operator Basement Start-Up*
 05-PRT8, *100 Ft. Sphere Evacuation System Activation*
 07-PR-1-D, *LN₂ Pump Cooldown*
 07-PR-1-ANXB, *Unit 7 LN₂ Dewar Filling Checklist*
 07-PR-1-ANXC, *Hypersonic Tunnel Cryo Pump Start-Up, Operations, and Shut Down Checklist*
 07-PO-1-C, *LN₂ Pump Shut Down*
 18-PR-2C (except Items #1 and #2), *Pre-Operational Procedure, Transonic Dynamics Tunnel*
 18-PR-3, *Pre-Operational Procedure, Transonic Dynamics Tunnel*
 18-PR-3A through -3D, *Pre-Operational Procedure, Transonic Dynamics Tunnel*

- 3.1.3 Nitrogen and Methane Compression Systems. The Contractor shall operate and maintain the liquid nitrogen to gas and methane pumping distribution systems at Building 1265 and 1277. The liquid nitrogen to gas system consists of two 6,000 psi liquid nitrogen pumping stations and piping components and 6,000 psi storage bottles. The methane system consists of two 6,000 psi pumping stations, piping components, and 6,000 psi storage bottles.

The Contractor shall use the following standard operating and maintenance procedures existing at these facilities:

03-SOP-S02C, *Methane Fuel System*
 03-SOP-S04-02, *Pressurizing 40, 18/4 and 1238/1267 Bottlefields*

- 3.1.4 Nitrogen Delivery Truck Services. The Contractor shall perform nitrogen delivery services in accordance with LAPG 1710.12, *Potentially Hazardous Materials*, within approximately one mile of LaRC. Under normal circumstances, this service shall be performed during normal LaRC working hours. The nitrogen delivery truck will be provided by the Government.

The Contractor shall maintain records of all nitrogen deliveries. Records shall include delivery dates and times, delivery sites, quantities delivered and any other pertinent information proposed by the Contractor and approved by the COTR. This data shall be recorded where it can easily be retrieved by the COTR within 24 hours of the delivery and summarized by the Contractor in a monthly electronic report to the COTR by the 5th day

of each month for the preceding month. All hardcopy and electronic records shall be turned over to the COTR on expiration or termination of the contract.

The Contractor shall use the following standard operating procedures:

COSMODYNE 5.0, Operation

- 3.1.5 Off-loading Services. The Contractor shall off load liquid nitrogen, silane, liquid oxygen, helium, and hydrogen from Department of Transportation (DOT) type trailers to facility storage containers at Buildings 1236, 1242, 1247, 1265, 1267, and 1277. These duties include both the off loading and disconnecting and connecting of DOT-type tube and tank trailers as required.

The Contractor shall use the following standard operating procedures:

03-SOP-S03A-01, *Filling LXT-38 with LOX from Mobile Trailers*
 03-SOP-S03B-01, *Load Run Tank RT-1 from Storage Tanks LNT-39 or LXT-38*
 03-SOP-S03E-01, *Filling LNT-39 with LN₂ from Mobile Trucks*
 03-SOP-S04-01, *Filling Unit-16 with LN₂ from Mobile Trucks*
 03-SOP-S06A-01, *Hydrogen Transfer to Storage*
 03-SOP-S17-01, *Model Ignition System*
 34-LN₂ SPEC Truck, 0.3 Meter Transonic Cryogenic Tunnel LN₂ Truck to Tank Fill Procedures

- 3.2 CLIN 2 - Mechanical/Electrical Drive System Operations and Power Dispatching. The Contractor shall be responsible for the safe and efficient operations of the Main Drive Systems for the 16 Foot Transonic Tunnel, Bldg. 1146 (operated from Drive Control, Bldg. 1241); the Unitary Plan Wind Tunnel, Bldg. 1251; the Transonic Dynamics Tunnel, Bldg. 648; the 0.3 Meter Cryogenic Tunnel, Bldg. 1242, and the Scramjet Test Facility, Bldg. 1247B (both operated from the Frequency Converter, Bldg. 1235). Switching of electrical equipment shall be performed with voltages up to 13,800 volts.

The Contractor shall maintain daily operations logs for each research facility support system to which an operator is assigned and shall record data, including equipment instrument readings, operator tasks assigned, routine maintenance performed, and emergency conditions. The Contractor shall keep all operation logs and records orderly, up-to-date and readily accessible to all authorized Government officials at any time. The Contractor shall turn the logs and records over to the CO upon expiration or termination of the contract period.

A collateral duty of the Drive Control Operator in Bldg. 1241 shall be to perform the function of the Power Dispatcher. The Power Dispatcher shall monitor an electronic display of the amount of electrical power made available at LaRC by Virginia Power. The Contractor shall ensure that communication between the Power Dispatcher and users is responsive and that power is allocated (verbally, not physically) efficiently. The contractor shall follow established priorities and guidelines, and ensure that the total amount of electrical power provided by Virginia Power is not exceeded, thereby preventing severe financial penalties to the Government. The Power Dispatcher shall submit a Monthly Power Report to the COTR. Refer to Exhibit F for Power Dispatcher Duties and Load Shedding Guide.

The Contractor shall use the following standard operating procedures:

24-PR-4, Unitary Wind Tunnel, Master Operating Procedures, *Synchronous Condenser Activation*
 24-PR-5, Unitary Wind Tunnel, Master Operating Procedures, *Main Drive on Turning Gear*
 24-PR-6, Unitary Wind Tunnel, Master Operating Procedures, *Main Drive Operation*

24-PR-7, Unitary Wind Tunnel, Master Operating Procedures, *Reposition Bull Gear for Engagement of Turning Gear*
 24-PO-2, Unitary Wind Tunnel, Master Operating Procedures, *Secure Main Drive*
 24-OP-1, *Procedures for Operating Research Facilities on Midnight Shift without Electrical Power Dispatcher*
 Task 14-PR-1, *Drive Control, Bldg. 1241, Pre-Operational Procedure*
 Task 14-OP-1, *Drive Control, Bldg. 1241, Operational Procedure*
 Task 14-PO-1, *Drive Control, Bldg. 1241, Post-Operational Procedure*
 Laboratory Risk Evaluation Program (LREP) Variable Frequency Converter, Configuration #1, Cryo Main Drive Motor, 1235-1P, Building 1235
 Laboratory Risk Evaluation Program (LREP) Variable Frequency Converter, Configuration #2, Scramjet Facility, 1235-2P, Building 1235
 Laboratory Risk Evaluation Program (LREP) Variable Frequency Converter, Configuration #3, Additional Support Requirements, 1235-3P, Building 1235
 18-PR-1, *Pre-Operational Procedure, Transonic Dynamics Tunnel*
 18-PR-2B, *Pre-Operational Procedure, Transonic Dynamics Tunnel*
 18-OP-1, *Operational Procedure, Transonic Dynamics Tunnel*
 18-PO-1, *Post-Operational Procedure, Transonic Dynamics Tunnel*

- 3.3 **CLIN 3 - NTF Support.** The Contractor shall provide support for the operation of the National Transonic Facility (NTF) Wind Tunnel, primarily located at Building 1236. This effort includes: a) tasks associated with specific wind tunnel research tests and b) routine tasks in support of the facility and its related systems. The two areas of support are classified as:

Wind Tunnel Test Initiated Tasks

Facility Infrastructure Tasks

Wind Tunnel Test Initiated Tasks and Facility Infrastructure Tasks are self sustaining and on-going. Historically, approximately 70 percent of the total effort falls under Wind Tunnel Test Initiated Tasks and approximately 30 percent falls under Facility Infrastructure Tasks.

The Contractor shall maintain daily operations logs for each research facility support system to which an operator is assigned and shall record data, including equipment instrument readings, operator tasks assigned, routine maintenance performed, and emergency conditions. The Contractor shall keep all operation logs and records orderly, up-to-date and readily accessible to all authorized Government officials at any time. The Contractor shall turn the logs and records over to the COTR upon expiration or termination of the contract.

3.3.1 NTF Operations.

(Wind Tunnel Test Initiated Task)

The Contractor shall perform the work required on the standardized checklists controlled by the Langley Handbook, LHB 1740.4, Facility Systems Analysis and Configuration Management, to accomplish pre-operation and post-operation tasks. These checklists include, but are not limited to, the LN₂ supply system, the main drive system and auxiliaries, cooling water, high-pressure air and steam, and the hydraulic systems.

- 3.3.1.1 The Contractor shall operate the Model Preparation Area (MPA) cryogenic chamber, monitor the system and test article, and shutdown the system as required. The operator shall be qualified in accordance with Facility Operator Certification Document and certified by the Facility Safety Head. The National Transonic Facility (NTF) has three Model Preparation Areas (MPAs) utilized to perform pretest installation, checkout, and calibration of test models and associated components. One of these areas, commonly known as MPA #3, is unique from the other two bays (MPA #1 & MPA #2). MPA #3 has

the system capability to thermally cycle a test model throughout a temperature range of -320°F to $+150^{\circ}\text{F}$ utilizing a portable cryogenic chamber enclosure. The operation of this cryogenic chamber requires operators to be at the control panel over a two shift period. Typically, on the second shift, the process of conditioning or warming the cryogenic chamber is beginning after the checkout activities performed on the first shift.

The Operating Procedure that applies to this subparagraph is:
99-IOP-108, User's Bay Cryo Chamber

- 3.3.1.2 The Contractor shall operate and maintain the Liquid Nitrogen (LN_2) Off-Loading & Storage for the facility's nitrogen tanks in accordance with Standard Operating Procedures, including but not limited to the 900K gallon tank, the 250K gallon tank, the 6K gallon dewar, and the 3K gallon dewar. This includes the piping, pumping, and valving systems. This effort shall include timely responses to requests for filling the 50 gallon dewars with LN_2 as required by the MPA operator. The Contractor shall coordinate the delivery of LN_2 to the facility with the LN_2 supplier, PRAXAIR. PRAXAIR is a Government Contractor, and the Government is responsible for maintaining that contractual relationship. PRAXAIR's LN_2 Supply Line is connected to the NTF by a transfer line from their facility located nearby at 3201 North Armistead Ave., Hampton, Virginia. PRAXAIR is responsible for the transfer line up to valve 3500L & 3677N (Facility Drawing LD-1006193 & LE-944286). The Contractor shall be responsible for the LN_2 system downstream from valve 3500L & 3677N.

The Operating Procedures and Checklists that apply to this subparagraph are:

99-SOP-01A, LN_2 Transfer from Trailers Substation
 99-SOP-01B-1, LN_2 Transfer from 3000 Ton Tank to 800 Ton Tank
 99-SOP-01C-1, LN_2 Transfer from LN_2 Plant to the 800 Ton LN_2 Tank
 99-SOP-01C-2, LN_2 Transfer from LN_2 Plant to the 3000 Ton Tank
 99-SOP-02A, P-1, P-2, and P-3 Fill Procedure
 99-SOP-02B, P-1, P-2, and P-3 Drain Procedure
 99-SOP-02C, LN_2 Supply System-Chilldown, Fill and Circulate
 99-SOP-02C-1, LN_2 Piping Chilldown, During Tunnel Access
 99-SOP-02D, LN_2 Return
 99-SOP-03, LN_2 Vaporizer System
 99-01A-1CL, Liquid Nitrogen Transfer
 99-01A-2CL, Liquid Nitrogen Transfer Subsystem Operation Checklist
 99-01B-1CL, Annulus Purge System – LN_2 Storage Tank
 99-01B-2CL, LN_2 Transfer from 3000 Ton Tank to 800 Ton Tank
 99-02-1CL, Liquid Nitrogen Supply System
 99-03-1CL, Liquid Nitrogen Vaporizer System

- 3.3.1.3 All IOP operations shall be performed in accordance with the NTF's Standard Operating Procedures (SOPs) and their associated check lists (reference the IOPs for the specific SOPs). These SOPs are maintained in the NTF library. The contract personnel must be certified as operators by NASA. The certifications required are defined in accordance with the NTF Facility Resume. To be certified, an operator must review and understand the applicable safety documentation, establish working knowledge of the associated hardware in the respective area of responsibility, and be capable of following written operation procedures/checklists for proper tunnel operations. The Facility Safety Head for NTF will certify contract personnel via letter to the COTR and Contractor's on-site manager. The following systems shall be operated by the Contractor:

- (a) Process Controls -- The Contractor shall operate the following subsystems:

Reynolds Number Control System
 Pressure Control System

Temperature Control System
 GN₂ Vent System
 LN₂ Flow Control System
 LN₂ Supply System
 LN₂ Storage System
 LN₂ Transfer (800 ton tank)
 LN₂ Transfer (3000 ton tank)
 Cooling Tower
 Cooling Coil
 High Pressure Air System

Miscellaneous Hydraulics System
 Vent Stack Valves, Fans, and Burners

The Operating Procedures and Checklists that apply to this subparagraph are:

99-SOP-02E, LN₂ Injector Procedure
 99-SOP-04, Tunnel (GN₂) Vent System
 99-SOP-05, High Pressure Air System
 99-SOP-08, Miscellaneous Hydraulic System
 99-SOP-09A, Model Support Pitch System
 99-SOP-10, Tunnel Temperature Control Utilizing Cooling Coil
 99-SOP-10A, Cooling Coil System
 99-SOP-10B, Drive Auxiliary Cooling Water System
 99-SOP-14A, Plenum Door Operation
 99-SOP-14B, Test Section Sidewalls and Fillets
 99-SOP-15 & 15A, Plenum Isolation System (15) – Gate Valves Out of Sync (15A)
 99-SOP-19A, Emergency Generator Load Test
 99-SOP-20-1, Semi-Automatic Mode with Manual Process Control Procedure
 99-SOP-20-2, Automatic Test Sequencing Procedure
 99-SOP-20-3, On-Setpoint Status System Operating Procedure
 99-SOP-103A, Cryo Operation Model Access – Gate Valves Open
 *99-IOP-100, Tunnel Air Operations
 *99-IOP-101A, Setup of Tunnel Systems for LN₂ Operations
 *99-IOP-101B, Tunnel Circuit Leak Check and Initial Purge
 *99-IOP-101C, Cryo Ops-Tunnel Circuit Drying – GN₂ Volume Exchange
 *99-IOP-101D, Cryo Ops-Tunnel Circuit Cooldown and Testing
 *99-IOP-101E, Cryo Ops-Tunnel Circuit Warmup and Air Purge
 *99-IOP-101F, Cryo Operations – Overnight Monitoring Instructions
 *99-IOP-101G, Tunnel Air Purge and Pressurization
 *99-IOP-101H, Setup of Tunnel Systems to Crossover from Air Operations to LN₂ Ops
 *99-IOP-101J, Crossover from LN₂ OPS to Air Operations
 *99-IOP-102A, Air Operation Plenum Access-Gate Valves Open w/o Access Housings
 Inserted
 *99-IOP-102B, Plenum Entry During Air Operations-Gate Valve Closed “Not Maintained”
 *99-IOP-102C, Air Operation Model Access – Gate Valves Open
 *99-IOP-103A, Model Access - Gate Valves Open
 *99-IOP-104A, Cryo Operation-Tunnel/Plenum Access-Gate Valves Open w/o Access
 Housings Inserted
 *99-IOP-106A, Tunnel Prerun Inspection and Closeout
 *99-IOP-106A-1, Limited Plenum Entry Through Nearside Plenum Door (Quickentry)
 *99-IOP-106B, Tunnel Post Run Entry and Inspection Air Ops or LN₂ Ops
 99-IOP-106C, Setup of Tunnel Systems for Air Operations
 99-IOP-106D, Air Operations Tunnel/Plenum Access-Gate Valves Open w/o Access
 Housings Inserted
 99-04-ICL, Tunnel (GN₂) Vent System, Vent Stack Burner and Muffler System

- 99-05-1CL, High Pressure Air System
- 99-07-1CL, Inlet Guide Vane Hydraulic Subsystem
- 99-08-1CL, Miscellaneous Hydraulic System
- 99-09-1CL, Pitch Hydraulics Subsystem
- 99-10-1CL, Cooling Coil Subsystem
- 99-10-3CL, Cooling Water System
- 99-10-4CL, Cooling Coil Dry Air Purge
- 99-10-5CL, Cooling Coil Subsystem Cryo Mode
- 99-10-6CL, Cooling Coil Dry Air Leak Test

*Indicates that these procedures are initiated by the Test Director and implemented by the Contractor.

(b) Drive/Mach System -- The Contractor shall operate the following subsystems:

- Drive Controls System
- Mach Number Control System
- Inlet Guide Vane Control System
- Inlet Guide Vane Hydraulics System

In addition to operating the above systems, the Contractor shall communicate with the Langley Power Dispatcher in order to arrange for the necessary electrical power for the test. The Contractor shall provide for visual observation of the model for instability and potential failure (via closed circuit television) during testing.

The Operating Procedures and Checklists that apply to this subparagraph are:

- 99-SOP-07, Inlet Guide Vane System
- 99-SOP-12, Drive System
- 99-SOP-12A, Drive System Auxiliaries
- 99-SOP-12B, Straighten Main Drive Shaft
- 99-SOP-12F, Drive System Turning Gear Procedure
- 99-SOP-12G, Shaft Seal Buffering Subsystem Operation
- 99-SOP-12H, Operating Fan Bearing Lube Oil System (Cold Procedures)
- 99-SOP-20-1, Semi-Automatic Mode with Manual Process Control Procedure
- 99-12-1CL, Drive System Prerun Checklist

(c) Model/Data System -- The Contractor shall operate the following subsystems:

- Pitch System
- Roll System
- Tunnel Parameter Control System
- Research Data Acquisition
- Pitch Hydraulics System
- Balance Cooling/Heating System
- Test Section Movable System

The Contractor shall operate systems identified in IOPs for integrated tunnel testing and operations including model access, test section access, plenum access, tunnel access, and post test inspections. The Contractor shall report anomalies of inspection to the Facility Safety Head in writing within 4 hours of procedure completion.

The Contractor's on-site manager and the personnel assigned to the test program, shall maintain active participation in meetings including, but not limited to, daily shift, pre-test, post test, and weekly operations meetings. The purpose of these meetings is to assure that the required coordination, integration and communication of the various activities occur in a timely and systematic manner.

The Operating Procedures that apply to this subparagraph are:
99-SOP-09A, Model Support Pitch System
99-SOP-09B, Roll Drive System
99-SOP-09C, Sidewall AOA Drive System
99-SOP-13, Test Section Configuration

(Facility Infrastructure Tasks)

- 3.3.1.4 The Contractor shall operate, calibrate in-situ, periodically test, and troubleshoot false alarms for the O₂ monitoring systems located at Building 1236 (NTF), Building 1236A through 1236D, Building 1242 (the adjoining 0.3 Meter TCT), Building 1235 (Variable Frequency), in accordance with procedures. Calibrations of the O₂ monitoring systems are mandated by the LaRC Metrology Office and shall be performed according to schedule (see Exhibit I) and shall be reported to the Metrology office. These systems have components located throughout the facilities, including central, portable, and stand-alone sensors. The reliability of the O₂ monitoring systems is critical for the safety of the personnel located at the NTF.

The Contractor shall maintain the following areas in proper condition/neatness in order to facilitate effective operations: the control room, the main drive room, the basements in the area of the high-pressure air reducing station and the hydraulic systems, the second floor on the far side of the tunnel, the LN₂ tank and transfer areas, and Building 1236A, 1236B, and 1236D.

The Operating Procedures and Checklists that apply to this subparagraph are:
99-SOP-18A, Oxygen Monitoring System
99-18A-1CL, Building Oxygen Monitoring System Daily Checklist

- 3.3.1.5 Card Key System - The Contractor shall operate and maintain the Card Key system (software and hardware) which shall allow access to the facility and controls designated safety zones within the facility during operations. The Contractor shall provide a safety briefing for all personnel prior to issuing a Card Key. The Contractor shall make all Card Key updates within 24 hours of receipt of work orders from Facility Safety Head. A Card Key distribution list shall be kept current at all times by the Contractor.

3.3.2 NTF Information Technology.

(Facility Infrastructure Tasks)

- 3.3.2.1 The Contractor shall provide to the Facility Manager and the COTR: quarterly financial status reports reflecting the cost of operation, work-hours reports, productivity reports, projects status reports, and procurement items reports in order to monitor the facility operation and productivity.

- 3.3.2.2 The Contractor shall provide written procedures for management of information technology responsibilities within 1 month of the beginning of the contract to the Facility Manager, Facility Safety Head, and COTR. The Procedures will be approved by the (Task/Test Request) NTF's Facility Manager. Procedures shall be updated and/or changed by the TTR and completed within the specified time. All Contractor data management activities shall adhere to these procedures 100% of the time.

- 3.3.2.3 NTF Technical Library and Configuration Management - The Contractor shall operate, update, and maintain the NTF technical records, facility baseline documentation, operating procedures, facility configuration management documents, and user files. The

user files shall include, but are not limited to, all correspondence, model and test hardware descriptions, design, structural analyses, quality assurance plans and reports, test plans, data, test logs, and final data reports. These documents shall be kept filed in designated and clearly labeled locations for easy retrieval. The Contractor shall reproduce and distribute updated facility documents and maintain facility work logs. The Contractor shall log items and documents in the system, file, index, and update the items/documents/index within one (1) day of receipt by the Contractor. The Contractor shall retrieve any item in the library within fifteen (15) minutes upon request by the Facility Manager, Facility Safety Head, Test Engineer, or COTR. The Contractor shall maintain 100 percent accountability for items that are checked out by NASA or Contractor personnel. The Contractor shall maintain the library in a neat, orderly appearance.

3.3.2.4 The Contractor shall operate and maintain the TTR database for global system tracking and the Problem Failure Report (PFR). The Contractor shall provide the monthly TTR/PFR summary of activities in a listed and graphical format. The TTR and PFR forms are approved by the Facility Manager. Any updates to the TTR regarding deliverables and/or delivery dates shall be made by the COTR. The Contractor shall provide both historical and current TTR/PFR tracking and filing as part of the facility operation for safety and project management activities. The Contractor shall distribute the TTRs/PFRs identified for distribution and track the open/closed status of each item. The Contractor shall provide Open/Closed status of the TTR/PFR database within 15 minutes of a request for the status report by the Facility Manager, Facility Safety Head, or COTR. The Contractor shall distribute the new TTR/PFRs daily during normal business days. The Contractor shall operate, update, and maintain the TTR/PFR database on a daily basis for 2 shift operation. The Contractor shall have less than five errors or discrepancies on the TTR/PFR database printout and 100% accountability for all TTR/PFR folders.

3.3.2.5 The Contractor shall provide facility drawing retrieval, reproduction, and distribution support as requested by the Facility Manager, Facility Safety Head, Test Engineer, or COTR for the facility projects, configuration and facility information. The Contractor shall deliver a copy of a NTF facility drawing within one (1) hour of the request by the Facility Manager, Facility Safety Head, Test Engineer, or COTR.

3.3.2.6 The Contractor shall develop, update, and maintain a database of critical items and spares identified in paragraph 4.3.

3.3.2.7 The Contractor shall operate, update, and maintain a tracking record database of hazardous material storage/waste. The Contractor shall update and maintain the Material Safety Data Sheet (MSDS) records of all items procured at the NTF within 24 hours of material receipt by the Facility.

3.3.3 Engineering Services.

(Test Initiated/Infrastructure Tasks)

3.3.3.1 The Contractor shall review associated model documentation to assure compliance with LHB 1710.15, *Wind Tunnel Model Systems Criteria*, and, as needed, perform detailed level 3 analysis (loads, stress, fatigue, fracture mechanics, deformation, vibration, divergence, and thermal) of models, stings, and other model related systems and support hardware entering the facility for testing. The Contractor shall identify computer codes necessary to perform the required analysis. Utilizing drawings and model stress analysis, 2 weeks prior to the start of model installation in the test section, the Contractor shall provide an independent, third party review of models, stings, and other model related systems and support hardware; documenting discrepancies; and recommending approaches for waiver.

- 3.3.3.2 The Contractor shall provide inputs for model protection systems. The Contractor shall provide the set points for the Balance Dynamic Display Unit (BDDU) and the Critical Point Analyzer (CPA). The Contractor shall provide the configuration data to the Facility Safety Head two (2) work days prior to the start of model installation in the test section.

*The Operating Procedures that apply to this subparagraph are:

99-IOP-24-1, Balance Dynamic Display Unit (BDDU) and Critical Point Analyzer (CPA) – Set-Up and Verification

*Indicates duties defined in this procedure are shared responsibilities with another Government Contractor.

- 3.3.3.3 The Design/Documentation support includes design activities as requested by the TTR to provide sketches and graphics, as well as updating current drawings. Drawings shall be updated and distributed, as well as maintained in accordance with established configuration management program policy (LHB 1740.4). The Contractor shall provide design drawings in support of the TTR requests related to facility modifications, upgrades, and repairs. The Contractor shall provide AutoCad sketches 24 hours after receiving the request. The Contractor shall deliver drawing updates (in AutoCad format) as described by date specified on the TTR.

3.3.4 Safety.

(Wind Tunnel Test Initiated Tasks)

- 3.3.4.1 The Contractor shall provide trained emergency team members for model accesses/changes while utilizing Self - Contained Breathing Units (SCBUs). This will consist of minimum teams, on station at the near-side and far-side of the access housings, which are trained to implement the appropriate Integrated Operation Procedures (IOPs) for that function. The Contractor team shall be on station at least 95% of the time, and communicating with the NASA Access Team Group Leader within 3 minutes of the request.

The Operating Procedures that apply to this subparagraph are:

99-SEP-201, Emergency Team Response to LN₂ Spill-Transfer/Supply Areas

99-SEP-202, Emergency Team Response to O₂ Deficiency or Fire Alarm

99-SEP-204, Vent Stack Enclosure Access With Tunnel Pressurized or Filled with Nitrogen (Emergency Team)

99-SEP-205, Response to O₂ Deficiency Alarms-Non-Shift Hours (LN₂/GN₂ Hazardous Operations)

99-SEP-206, LN₂ Supply System – Security with LN₂

99-SEP-207, Resetting LN₂ Storage Valves – Pumps Cold

99-SEP-209, Facility Security Daily Lockup Checklist

99-SEP-210, NTF Cooling Coil Cold Weather Procedures

99-SEP-211, Leak Check Procedure

99-SEP-212, Preheat Cooling Coils and Tunnel for Low Speed Runs

99-SEP-213, Systems Shutdown for Code 3 Power Condition

99-SEP-214, Manual Transfer from 3000 Ton Tank to 800 Ton Tank

99-SEP-215, Entering Upstream Nacelle After Air Operations

99-SEP-216, Response to Duty Officer Call for Tunnel Heater Failure Alarm

(Facility Infrastructure Tasks)

- 3.3.4.2 The Contractor shall train and maintain fully staffed emergency teams to respond to LN₂/GN₂ spills and alarms. This will include securing the area of responsibility and assisting fire and/or medical personnel as needed. Minimum qualifications and/or

certifications for the emergency team members will include successful training in the facility SCBU and Cardiopulmonary Resuscitation (CPR). The NASA Facility Safety Head will approve the Contractor's planned ERT staffing to ensure that it is staffed with qualified personnel. When the alarm sounds, the Contractor shall have a minimum team on station and communicating with the Facility Safety Head or the emergency team Group Leader within no more than two (2) minutes. Quick response to an emergency is essential.

3.3.4.3 The Contractor shall maintain and coordinate two Satellite industrial waste disposal areas at the facility in accordance with Section 2.8.

3.3.5 Configuration Control.

(Facility Infrastructure Tasks)

3.3.5.1 The Contractor shall submit redline drawings for proposed changes to the PCS. The Contractor shall maintain 100% configuration control of the wiring from the microprocessors to the first terminal block junction commonly known as the "KJ Boards".

3.3.5.2 The Contractor shall assist the Facility Safety Head in maintaining the facility "Working Master" drawings, procedures, and checklists as defined in the LHB 1740.4. The Contractor shall format procedures within 3 working days after receiving the redlined, updated master copies.

3.3.6 Storage/Inventory.

(Facility Infrastructure Tasks)

3.3.6.1 The Contractor shall be responsible for the organization and inventory of items stored in the NTF's two storage buildings (60x40 ft. and 50x50 ft.).

3.3.6.2 The Contractor shall maintain an inventory of all models, support hardware (including stings adapters, etc.), balances, facility equipment, etc. Stored Records shall be kept showing the location and responsible individual for this equipment. These records shall document equipment status (in use, loaned out, sent out for repair or modification), equipment condition, and the equipment's availability for use.

3.3.6.3 The Contractor shall control and maintain the tool crib area for the NTF. The Contractor shall be responsible for the stocking of consumables for the facility.

3.4 Administrative Instruction Procedures that the Contractor shall follow and adhere to in the performance of this contract are:

| | |
|--------|---|
| AIP-1 | NTF Task/Test Request (TTR) (NTF Form No. 1) |
| AIP-2 | NTF Problem/Failure Report (NTF Form No. 2) |
| AIP-3 | NTF Emergency Teams |
| AIP-4 | Facility Security |
| AIP-5 | Response to NTF Fire/O ₂ Deficiency Alarms-Unmanned Facility |
| AIP-6 | Fire and O ₂ Deficiency Alarms During Duty Hours |
| AIP-8 | Duplicate Kirk Key Control |
| AIP-9 | Oxygen Monitoring System Activation/Deactivation Key Control |
| AIP-10 | Field Box Key Control |
| AIP-14 | Policy for NTF Test Plans and Conductive Test Programs |
| AIP-15 | Responsibility, Location and Content of Official NTF Logs |
| AIP-16 | NTF Interlock/Alarm/Response Policy |
| AIP-17 | Maintenance for All Critical Interlocks |
| AIP-22 | Building and Maintaining the Research Data Patchboard Configuration |

| | |
|--------|---|
| AIP-23 | Scheduling Repair and Maintenance of the NTF Data Complex Har |
| AIP-27 | Policy for Controlling NTF Pins, Keys and Threaded Fasteners are Rated for Cryogenic Applications |
| AIP-28 | NTF Systems/Subsystems, Task/Test Request (TTR), and Problem/Failure Report (PFR) Numbering |
| AIP-29 | Quality Control Procedure for NTF Test Data |
| AIP-30 | NTF Data System Operation and Responsibilities |
| AIP-31 | Control of Modifications to Control Microprocessor Software |

4.0 **ROUTINE MAINTENANCE AND CORRECTIVE REPAIRS:** The Contractor shall perform routine maintenance and corrective repairs on the systems described in Section 3.0. The Contractor shall enter all repair, maintenance, and equipment set point changes into LaRC's Computerized Maintenance Management System (CMMS).

4.1 **Routine Maintenance.** Routine maintenance includes minor component changes (e.g. filters, belts, seals, etc.), lubrication, inspections and tests. The contractor shall visually inspect the entire mechanical and electrical systems daily and follow approved maintenance procedures and associated checklists in the performance of maintenance work. The Contractor shall perform checks of system safety alarms per Government approved Operation Procedures Plan. Changes to the control circuitry or any other system components shall be performed only in accordance with configuration management procedures as detailed in LHB 1740.4, *Facility System Analysis and Configuration Management*. In addition to performing routine maintenance on on-line equipment, the contractor shall periodically operate and inspect idle equipment and clean preserve, lubricate, and adjust contractor employee personal equipment. Operational emergencies such as loss of compressors, bearing failure, etc. for a period extending beyond 30 minutes or which result in a change in the system's reliability or capacity shall be reported within 30 minutes of the occurrence to the COTR.

The Contractor shall clean and prepare pressure vessels and system components for certification. During equipment and pressure vessel inspection and/or certification, the contractor shall provide a qualified operator for support, as necessary. The Government will provide an ASME-certified inspector for pressure vessel certifications. Refer to LHB 1710.40, *Safety Regulation Covering Pressurized Systems*. The COTR shall be notified if unsafe conditions are found, following repair of a pressure part, or after any major modification to pressure vessels, control equipment or auxiliaries. Uncertified systems shall not be operated without the written concurrence of the COTR. Pressure vessel inspection safety certificates shall be void immediately on the discovery of a safety deficiency regardless of the expiration date on the certificate. The certificate will again be valid only after the deficiency has been corrected by the Contractor, and the affected equipment shall not be placed back in operation until written authorization is received from a certified pressure vessel inspector.

4.2 **Corrective Repairs.** As system abnormalities occur, the contractor shall identify to the Facility Manager (within 15 minutes) an initial assessment of the abnormality, probable cause, and proposed course of action. The contractor shall be responsible for troubleshooting and diagnosis (these activities are limited to 20 work-hours per occurrence). The contractor shall prepare an estimate to repair including materials and upon Facility Coordinator or Facility Manager approval, effect the repair if less than 32 work-hours are required. Repairs requiring more than 32 work-hours may be accomplished under emergency conditions with approval from the COTR. During wind tunnel tests, the contractor shall troubleshoot and replace inoperable components or perform on-site repairs to minimize tunnel-unscheduled downtime.

4.3 **Procurement of Parts and Consumables.** The Contractor shall provide all consumables required in performance of paragraph 4.1, Routine Maintenance.

The Contractor shall provide all consumables and parts required for Corrective Repairs (paragraph 4.2) with approval of the Facility Manager or COTR.

The Contractor shall provide all critical reserve items. Critical reserve items are defined as those parts and materials that are essential or critical to the operation of a facility and/or parts and materials that require long lead times that must be stocked to insure timely repair of critical equipment in the event of failure. The Government will provide the Contractor an initial listing of critical reserve items and the minimum stocking levels. The Contractor shall maintain, identify changes, and provide updates to the critical reserve items list based on the needs of each facility. The Contractor shall conduct an initial inventory (utilizing the Government's inventory of the critical reserve items) during the phase-in period of this contract to confirm the exact number of critical reserve items on-hand. The Contractor shall then certify the findings of this inventory and assume accounting responsibility for all the critical reserve items. The Contractor shall maintain at least the minimum quantities of all items specified. These items shall be used by the Contractor in the maintenance and repair of the facilities/systems only as follows:

- (1) Critical reserve items shall be used on the systems, with which they are associated.
- (2) A replacement critical reserve item shall be ordered within three working days after the use of any critical reserve item that causes the total quantity on hand to fall below the minimum specified level.
- (3) On completion or termination of the contract, all critical reserve items shall be returned to the Government in at least the minimum specified quantities.

4.4 Installation Accountable Government Property (IAGP). The Government will provide the Contractor tools and equipment in the performance of the contract. The total or partial breakdown or failure of the IAGP does not relieve the Contractor of the responsibility to fully perform the work of this contract. Upon completion or termination of the contract, all Government furnished tools and equipment shall be returned to the Government in the same condition as received, except for normal wear and tear.

SECTION E – INSPECTION AND ACCEPTANCE

E.1 FINAL INSPECTION AND ACCEPTANCE--ALTERNATE I (LaRC 52.246-94) (OCT 1992)

Final inspection and acceptance of all items specified for delivery under this contract, including the services described in Section C, DESCRIPTION/SPECIFICATION/WORK STATEMENT, shall be accomplished by the Contracting Officer or his duly authorized representative at destination.

SECTION F - DELIVERIES OR PERFORMANCE

F.1 PERIOD OF PERFORMANCE (LaRC 52.211-91) (AUG 1997)

The period of performance of this contract shall be twelve (12) months from the effective date of the contract.

F.2 PLACE OF PERFORMANCE (LaRC 52.211-98) (OCT 1992)

The place of performance shall be NASA, Langley Research Center, Hampton, Virginia and other locations designated in the Statement of Work.

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 TECHNICAL DIRECTION (NASA 1852.242-70) (SEP 1993)

(a) Performance of the work under this contract is subject to the written technical direction of the Contracting Officer's Technical Representative (COTR), who shall be specifically appointed by the Contracting Officer in writing in accordance with NASA FAR Supplement 18-42.270. "Technical direction" means a directive to the Contractor that approves approaches, solutions, designs, or refinements; fills in details or otherwise completes the general description of work or documentation items; shifts emphasis among work areas or tasks; or furnishes similar instruction to the Contractor. Technical direction includes requiring studies and pursuit of certain lines of inquiry regarding matters within the general tasks and requirements in Section C of this contract.

(b) The COTR does not have the authority to, and shall not, issue any instructions purporting to be technical direction that -

- (1) Constitutes an assignment of additional work outside the statement of work;
- (2) Constitutes a change as defined in the changes clause;
- (3) In any manner causes an increase or decrease in the total estimated contract cost, the fixed fee (if any), or the time required for contract performance;
- (4) Changes any of the expressed terms, conditions, or specifications of the contract; or
- (5) Interferes with the Contractor's rights to perform the terms and conditions of the contract.

(c) All technical direction shall be issued in writing by the COTR.

(d) The Contractor shall proceed promptly with the performance of technical direction duly issued by the COTR in the manner prescribed by this clause and within the COTR's authority. If, in the Contractor's opinion, any instructions or direction by the COTR falls within any of the categories defined in paragraph (b) above, the Contractor shall not proceed but shall notify the Contracting Officer in writing within 5 working days after receiving it and shall request the Contracting Officer to take action as described in this clause. Upon receiving this notification, the Contracting Officer shall either issue an appropriate contract modification within a reasonable time or advise the Contractor in writing within 30 days that the instruction or direction is -

- (1) Rescinded in its entirety; or
- (2) Within the requirements of the contract and does not constitute a change under the changes clause of the contract and that the Contractor should proceed promptly its performance.

(e) A failure of the Contractor and Contracting Officer to agree that the instruction or direction is both within the requirements of the contract and does not constitute a change under the changes clause, or a failure to agree upon the contract action to be taken with respect to the instruction or direction shall be subject to the Disputes clause of this contract.

(f) Any action(s) taken by the Contractor in response to any direction given by any person other than the Contracting Officer or the COTR shall be at the Contractor's risk.

G.2 SUBMISSION OF VOUCHERS FOR PAYMENT (NASA 1852.216-87) (MAR 1998)

(a) The designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract is identified below. Public vouchers for payment of costs shall include a reference to the number of this contract.

(b)(1) If the Contractor is authorized to submit interim cost vouchers directly to the NASA paying office, the original voucher should be submitted to:

Attn: Financial Management Division, MS 175
NASA Langley Research Center
Hampton, VA 23681-2199

(2) For any period that the Defense Contract Audit Agency has authorized the Contractor to submit interim cost vouchers directly to the Government paying office, interim vouchers are not required to be sent to the Auditor, and are considered to be provisionally approved for payment, subject to final audit.

(3) Copies of vouchers should be submitted as directed by the CO.

(c) If the Contractor is not authorized to submit interim cost vouchers directly to the paying office as described in paragraph (b), the Contractor shall prepare and submit vouchers as follows:

(1) One original Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment to:

[Insert the appropriate NASA or DCAA mailing office address for submission of cost vouchers.]

(2) Five copies of SF 1034, SF 1035A, or equivalent Contractor's attachment to the following offices by insertion in the memorandum block of their names and addresses:

- (i) Copy 1 NASA CO;
- (ii) Copy 2 Auditor;
- (iii) Copy 3 Contractor;
- (iv) Copy 4 Contract administration office; and
- (v) Copy 5 Project management office.

(3) The CO may designate other recipients as required.

(d) Public vouchers of payment of fee shall be prepared similarly to the procedures in Paragraphs (b) or (c) of this clause, whichever is applicable, and be forwarded to:

Attn: Contracting Officer, M/S 126
NASA Langley Research Center
Hampton, VA 23681-2199

This is the designated billing office for fee vouchers for purposes of the Prompt Payment clause of this contract.

(e) In the event that amounts are withheld from payment in accordance with provisions of this contract, a separate voucher for the amount withheld will be required before payment for that amount may be made.

G.3 CONTRACT CLOSEOUT (LaRC 52.242-90) (JUN 1988)

A. Reassignment--After receipt, inspection, and acceptance by the Government of all required articles and/or services, and resolution of any pending issues raised during the Period of Performance, this contract will be reassigned to the NASA Langley Research Center CO for Contract Closeout. All transactions subsequent to the physical completion of the contract should, therefore, be addressed to the said CO at NASA Langley Research Center, Mail Stop 126, who may be reached by telephone at (757) 864-7765.

B. "Quick Closeout"--Paragraph (f) of the Allowable Cost and Payment clause of this contract addresses the "Quick Closeout Procedure" delineated by Subpart 42.7 of the Federal Acquisition Regulation (FAR). It should be understood that the said procedure applies to the settlement of indirect costs for a specific contract in advance of the determination of final indirect cost rates when the amount of unsettled indirect cost to be allocated to the contract is relatively insignificant. Therefore, the "Quick Closeout" procedure does not preclude the provisions of Paragraph (d) of the Allowable Cost and Payment clause nor does it constitute a waiver of final audit of the Contractor's Completion Voucher.

C. Completion Voucher Submittal--Notwithstanding the provisions of the Allowable Cost and Payment clause, as soon as practicable after settlement of the Contractor's indirect cost rates applicable to performance of the contract, the Contractor shall submit a Completion Voucher as required by the aforesaid clause. The Completion Voucher shall be supported by a cumulative claim and reconciliation statement and executed NASA Forms 778, Contractor's Release, and 780, Contractor's Assignment of Refunds, Rebates, Credits, and Other Amounts. Unless directed otherwise by the CO for Contract Closeout, the Contractor shall forward the said Completion Voucher directly to the cognizant Government Agency to which audit functions under the contract have been delegated.

G.4 LIST OF INSTALLATION-ACCOUNTABLE PROPERTY AND SERVICES (NASA 18-52.245-77) (JUL 1997)

In accordance with the clause at 1852.245-71, Installation-Accountable Government Property, the Contractor is authorized use of the types of property and services listed below, to the extent they are available, in the performance of this contract within the physical borders of the installation which may include buildings and space owned or directly leased by NASA in close proximity to the installation, if so designated by the Contracting Officer.

(a) Work area space and utilities for the Contractor's direct productive labor staff only (Ref. B.2.B). Government telephones are available for official purposes only; pay telephones are available for contractor employees for unofficial calls.

(b) General- and special-purpose equipment, including office furniture.

(1) All tools, special-test equipment, special tooling, and agency-peculiar property necessary for performance of Statement of Work Section, 4.0, Routine Maintenance and Corrective Repairs, will be provided by the Government. The Government retains accountability for this property under the clause at 1852.245-71, Installation-Accountable Government Property, regardless of its authorized location.

(2) If the Contractor acquires property, title to which vests in the Government pursuant to other provisions of this contract, this property also shall become accountable to the Government upon its entry into Government records as required by the clause at 1852.245-71, Installation-Accountable Government Property.

(3) The Contractor shall not bring to the installation for use under this contract any property owned or leased by the Contractor, or other property that the Contractor is accountable for under any other Government contract, without the Contracting Officer's prior written approval.

(c) Supplies from LaRC stores stock: NOT AVAILABLE

(d) Publications and blank forms stocked by the installation.

(e) Safety and fire protection for Contractor personnel and facilities.

(f) Medical treatment of a first-aid nature for Contractor personnel injuries or illnesses sustained during on-site duty.

(g) Cafeteria privileges for Contractor employees during normal operating hours.

(h) Building maintenance for facilities occupied by Contractor personnel.

(i) Moving and hauling for office moves, movement of large equipment, and delivery of supplies. Moving services shall be provided on-site, as approved by the Contracting Officer.

(j) The user responsibilities of the Contractor are defined in paragraph (a) of the clause at 1852.245-71, Installation-Accountable Government Property.

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 RIGHTS TO PROPOSAL DATA (TECHNICAL) (FAR 52.227-23) (JUN 1987)

Except for data contained on pages _____, it is agreed that as a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the "Rights in Data - General" clause contained in this contract) in and to the technical data contained in the proposal dated _____, upon which this contract is based.

H.2 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (FAR 52.222-42) (MAY 1989)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

THIS STATEMENT IS FOR INFORMATION ONLY: IT IS NOT A WAGE DETERMINATION

| <u>Employee Class</u> | <u>Monetary Wage</u> |
|-------------------------------------|----------------------|
| Technical Information Specialist | \$10.44 |
| Senior Technician/Drive Control | \$19.15 |
| Senior Technician/Fluids | \$19.15 |
| Senior Technican/Wind Tunnel | \$19.15 |
| Journeyman Technician/Drive Control | \$19.15 |
| Journeyman Technician/FLUIDS | \$17.43 |
| Journeyman Technician/Wind Tunnel | \$17.43 |
| Drafter | \$15.82 |

FRINGE BENEFITS

- Annual Leave - Receives 13 days paid leave for service up to 3 years; 20 days for 3 to 15 years service; and 26 days for 15 years service or over.
- Sick Leave - Receives 13 days paid leave per year.
- Holidays - Receives 10 paid holidays per year.
- Health Insurance - Government pays up to 60% of health insurance.
- Group Life Insurance - Government pays two-thirds of life insurance rate premiums.
- Retirement - The Government provides three retirement plans identified as the Civil Service Retirement System (CSRS), the Federal Employees Retirement System (FERS), and the CSRS Offset. Under the CSRS, the Government contributes 7% of the employees' base pay towards the retirement benefit and 1.45% towards Medicare. Under the FERS, the Government contributes 11.4% of the employees' base pay towards a basic benefit plan, 6.2% to Social Security, 1.45% towards Medicare, and 1% (plus matching contributions of up to 4% of basic pay, depending on employees' contributions) to a thrift savings plan. Under the CSRS Offset, the Government contributes 0.8% of the employees' base pay towards the retirement benefit, 6.2% to Social Security, and 1.45% towards Medicare.

Part-time Federal employees receive pro rata annual leave, sick leave, holiday leave, health insurance, and group life insurance benefits based on the number of hours worked.

H.3 INCORPORATION OF SECTION K OF THE PROPOSAL BY REFERENCE (LaRC 52.215-107) (MAR 1989)

Pursuant to FAR 15.204-5, the completed Section K of the proposal dated _____, is hereby incorporated herein by reference.

H.4 ADVANCE APPROVAL FOR RELEASE OF TECHNICAL INFORMATION (LaRC 52.227-92) (JUL 1998)

The Contractor shall not release technical information based on or containing data first produced in the performance of this contract and describing the work performed under this contract unless prior written approval is given by NASA. The Contractor shall submit technical information regarding the contract effort, such as journal articles, meeting papers, and technical documents to the Contracting Officer's Technical Representative (COTR) for review and concurrence with approval by the Center Export Administrator or designee prior to publication, presentation or release to others. The Contractor may proceed upon receipt of written concurrence by the COTR, unless directed otherwise in the COTR concurrence letter.

H.5 ADVANCE AGREEMENT ON INDIRECT RATE(S) (LaRC 52.231-90) (JUN 1988)

A. Notwithstanding the provisions of the Section I clause entitled "Allowable Cost and Payment," the Contractor will be reimbursed at the indirect ceiling rates specified below or the actual rates, whichever are less, for each of the Contractor's fiscal years applicable to this contract. The Contractor's fiscal year is _____. Any costs that are not reimbursed due to the ceilings shall be deemed unallowable costs. These unallowable costs shall not be recovered under this or any other Government contract.

Indirect Cost Pool

Ceiling Percentage

Allocation Base

B. The above rate ceilings are predicated upon the bases listed above and the accounting practices and accounting system in effect on _____. If the Contractor changes its accounting practices or accounting system in any way, the Contractor will immediately notify the Government. Within 30 days of such change the Contractor shall present to the CO information that demonstrates that the change will not impact the allowable cost computed using the above rates or shall submit a proposal for adjustment of the ceilings so that the total costs allowable will not exceed the total costs that would have been allowable had the Contractor not changed its accounting practices or accounting system. In the event that the parties cannot agree on new ceilings using the Contractor's new accounting practices or system and the Contractor does not agree to return to the previous accounting practices and system, the CO may equitably adjust the ceilings.

H.6 SUBCONTRACTING PLAN

The approved Contractor plan for subcontracting with small business and small disadvantaged business concerns is attached hereto as Exhibit F and is hereby made a part of this contract.

H.7 YEAR 2000 COMPLIANCE (MAY 1998)

(a) Definition: "Year 2000 compliant," as used in this clause, means that the information technology (hardware, software and firmware, including embedded systems or any other electro-mechanical or processor-based systems used in accordance with its associated documentation) accurately processes date and date-related data (including, but not limited to, calculating, comparing, and sequencing) from, into, and between the twentieth and twenty-first centuries, and the Years 1999 and 2000 and leap year calculations, to the extent that other information technology, used in combination with the information technology being acquired, properly exchanges date and date-related data with it.

(b) Any information technology provided, operated and/or maintained under this contract is required to be Year 2000 compliant. To ensure this result, the Contractor shall provide documentation describing how the IT items or services demonstrate Year 2000 compliance consisting of: standard product literature or test reports for commercial items, test procedures, and/or certification for complex systems.

(c) The Contractor warrants that any IT items or services provided under this contract that involve the processing of date and date-related data are Year 2000 compliant. If the contract requires that specific listed products must perform as a system in accordance with the foregoing warranty, then that warranty shall apply to those listed products as a system.

(d) The remedies available under this warranty shall include repair or replacement, at no additional cost to the Government, of any provided items or services whose non-compliance is discovered and made known to the Contractor in writing within 90 days after acceptance. In addition, all other the terms and limitations of the Contractor's standard commercial warranty or warranties shall be available to the Government for the IT items or services acquired under this contract. Nothing in this warranty shall be construed to limit any rights or remedies the Government may otherwise have under this contract with respect to defects other than Year 2000 performance.

H.8 QUALITY SYSTEM REQUIREMENTS (ISO 9002)

The Contractor's quality system shall be compliant with the requirements of ANSI/ISO/ASQC Q9002-1994, Quality Systems Model for Quality Assurance in Production, Installation, and Servicing. If the Contractor's quality system is not already compliant with the requirements of ANSI/ISO/ASQC Q9002-1994, the Contractor shall develop quality system procedures and associated documentation to become compliant within nine months after the contract effective date. The Contractor's quality system shall remain in compliance with ANSI/ISO/ASQC Q9002-1994 during the term of the contract. The Government reserves the right to audit the Contractor's quality system at any time. The requirements of this clause do not flow down to subcontractors.

"Compliant" as used in this clause means that the contractor has defined, documented, and will continually implement during the term of the contract management-approved methods of operation that conform to the requirements given in the above-cited International Standard.

H.9 CONTRACTOR EMPLOYEE'S SECURITY CLEARANCE (LaRC 52.204-90) (OCT 1996)

By virtue of their particular work assignment, certain Contractor employees, may be required to have a security clearance granted in accordance with the National Industry Security Program Operating Manual (NISPOM) dated March 14, 1996. Clearances will be issued by the Department of Defense (DOD). Within 10 working days after an employee is identified by the Government and/or the Contractor as requiring a SECRET or higher clearance, the Contractor shall submit to the Contracting Officer evidence of the submittal of a request for clearance to DOD for such employee. If the clearance for an employee has not been issued by DOD within 120 calendar days of the submittal of the request for clearance to DOD, the Contractor may be required to remove the employee from the contract.

H.10 SECURITY PROGRAM/FOREIGN NATIONAL EMPLOYEE INVESTIGATIVE REQUIREMENTS (LaRC 52.204-91) (AUG 1997)

Prior to reporting to Langley Research Center (LaRC) to perform under a contract or grant, each Foreign National shall have approval for access to LaRC facilities from NASA Headquarters, Office of Space Science and Aeronautics (Code IS). A copy of the access authorization request shall be provided to the LaRC Chief of Security. Additionally, an investigation by the Government shall be completed on each Foreign National contractor prior to reporting to LaRC to perform under a contract or grant. A properly executed "Name Check Request" (NASA Form 531) and a completed "applicant" fingerprint card shall be submitted to the LaRC Security Office, Mail Stop 450, for each Foreign National contractor at least 75 days prior to the estimated entry on duty date. The NF 531 and fingerprint card may be obtained

from the LaRC Security Office. If the access approval is obtained from NASA Headquarters prior to completion of the investigation, and the Contracting Officer requires a Foreign National to work on LaRC, an escort request may be considered by the LaRC Chief of Security.

H.11 OBSERVATION OF REGULATIONS AND IDENTIFICATION OF CONTRACTOR'S EMPLOYEES--ALTERNATE I (LaRC 52.211-104) (AUG 1998)

A. Observation of Regulations--In performance of that part of the contract work which may be performed at Langley Research Center or other Government installation, the Contractor shall require its employees to observe the rules and regulations as prescribed by the authorities at Langley Research Center or other installation including all applicable Federal, NASA and Langley or other local installation safety, health, environmental and security regulations.

B. Identification Badges--At all times while on LaRC property, the Contractor shall require its employees, subcontractors and agents to wear badges which will be issued by the NASA Contract Badge and Pass Office, located at 1 Langley Boulevard (Building No. 1228). Badges shall be issued only between the hours of 6:30 a.m. and 4:30 p.m., Monday through Friday. Contractors will be held accountable for these badges, and may be required to validate outstanding badges on an annual basis with the NASA LaRC Security Office. Immediately after employee termination or contract completion, badges shall be returned to the NASA Contract Badge and Pass Office.

H.12 UNESCORTED ACCESS BY CONTRACTOR EMPLOYEES

Background investigations are required for Contractor employees to have unescorted access to the Langley Research Center. All Contractor employees must as a minimum have a favorably adjudicated National Agency Check (NAC). The NAC is not required if the Contractor can certify that an employee has a Confidential or higher security clearance or a favorably adjudicated current investigation. When it is necessary for an employee to perform work prior to completion of the NAC, the employee may be escorted while at the site by an individual who has a favorable NAC or a higher level of investigation favorably adjudicated, or a Confidential or higher level security clearance or as otherwise approved by the LaRC Security Officer.

H.13 VIRGINIA AND LOCAL SALES TAXES (LaRC 52.229-92) (APR 1992)

To perform this contract, the Contractor must be knowledgeable of relevant state and local taxes when making purchases of tangible personal property. The Contractor shall refrain from paying nonapplicable taxes or taxes where an exemption exists, but shall pay applicable taxes that are reimbursable pursuant to FAR 31.205-41, Taxes. Even though title to property purchased under this contract may pass to the Government and the price is reimbursable under contract cost principles, such transactions do not in themselves provide tax immunity to the Contractor. Therefore, within 30 days after the effective date of this contract, the Contractor shall request from the Virginia State Tax Commission a ruling on any tax exemptions that may be applicable to purchases made under this contract. The Contractor shall provide all facts relevant to the situation and shall pursue an interpretation of the law that is most favorable to both the Contractor and the Government.

H.14 OPTION TO EXTEND THE TERM OF THE CONTRACT (FAR 52.217-9) (MAR 1989)

(a) The Government may extend the term of this contract by written notice to the Contractor within the current contract period of performance; provided, that the Government shall give the Contractor a preliminary written notice of its intent to extend at least 60 days before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option provision.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 60 months.

H.15 OPTIONS

Priced Options/Extended Term

Pursuant to the Section H clause entitled "Option to Extend the Term of the Contract (MAR 1989)," the Contractor hereby grants to the Government options to extend the term of the contract for four additional periods of 12 months each. Such options are to be exercisable by issuance of a unilateral modification. Upon exercise of such option(s) by the Government, the following items will be increased by the amount specified below for each option period.

| <u>Item</u> | <u>Option Period One</u> | <u>Option Period Two</u> | <u>Option Period Three</u> | <u>Option Period Four</u> |
|--------------------------------------|------------------------------|------------------------------|--------------------------------|-------------------------------|
| Period of Performance: (Ref. F.1) | 12 months | 12 months | 12 months | 12 months |
| Level of Effort (Ref. B.2): | 105,188 | 105,188 | 105,188 | 105,188 |
| Estimated Cost: (Ref. B.3) | \$ | \$ | \$ | \$ |
| Fixed Fee: (Ref. B.3) | \$ | \$ | \$ | \$ |

H.16 SMALL DISADVANTAGED BUSINESS PARTICIPATION--CONTRACT TARGETS
(LaRC 52.219-91) (JAN 1999)

(a) This clause does not apply to, and should not be completed by, Small Disadvantaged Business (SDB) offerors unless the SDB offeror has waived the price adjustment evaluation adjustment (see Paragraph (c) of FAR clause 52.219-23).

(b) FAR 19.1202-4(a) requires that SDB participation targets be incorporated in the contract.

(i) If the prime offeror is a SDB (including joint venture partners and team members) that has waived the price evaluation adjustment, the target for the work it intends to perform as a prime contractor in authorized SIC Major Groups, as determined by the Commerce Department, is as follows:

| | <u>Dollars</u> | <u>Percent of Contract Value</u> |
|--------------------------|----------------|----------------------------------|
| 1. Basic Contract Period | | |
| 2. Option Period 1 | | |
| 3. Option Period 2 | | |
| 4. Option Period 3 | | |
| 5. Option Period 4 | | |

(ii) Targets for SDB participation as subcontractors in authorized SIC Major Groups, as determined by the Commerce Department, are as follows:

| | <u>Dept. of Commerce Major SIC Group</u> | <u>Dollar Target</u> | <u>Percent of Contract Value</u> |
|--------------------------|--|----------------------|--------------------------------------|
| 1. Basic Contract Period | | | |
| Total | | | |
| 2. Option Period 1 | | | |
| Total | | | |
| 3. Option Period 2 | | | |
| Total | | | |
| 4. Option Period 3 | | | |
| Total | | | |
| 5. Option Period 4 | | | |
| Total | | | |

(c) FAR 19.1202-4(b) requires that SDB concerns that are specifically identified by the offeror be listed in the contract when the extent of the identification of such subcontractors was part of the SDB evaluation subfactor. SDB concerns (subcontractors) specifically identified by the offeror are as follows:

Name of Concern(s):

The Contractor shall notify the Contracting Officer of any substitutions of firms that are not SDB concerns.

PART II - CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

I.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE:

FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

| <u>CLAUSE NUMBER</u> | <u>TITLE AND DATE</u> |
|----------------------|---|
| 52.202-1 | Definitions (OCT 1995) |
| 52.203-3 | Gratuities (APR 1984) |
| 52.203-5 | Covenant Against Contingent Fees (APR 1984) |
| 52.203-6 | Restrictions on Subcontractor Sales to the Government (JUL 1995) |
| 52.203-7 | Anti-Kickback Procedures (JUL 1995) |
| 52.203-10 | Price or Fee Adjustment for Illegal or Improper Activity (JAN 1997) |
| 52.204-2 | Security Requirements (AUG 1996) |
| 52.204-4 | Printing/Copying Double-Sided on Recycled Paper (JUN 1996) |
| 52.207-3 | Right of First Refusal of Employment (NOV 1991) |

| | |
|-----------|---|
| 52.209-6 | Protecting the Government's Interest when Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (JUL 1995) |
| 52.211-15 | Defense Priority and Allocation Requirements (SEP 1990) |
| 52.215-2 | Audit and Records--Negotiation (AUG 1996) |
| 52.215-8 | Order of Precedence (OCT 1997) |
| 52.215-11 | Price Reduction for Defective Cost or Pricing Data—Modifications (OCT 1997) |
| 52.215-13 | Subcontractor Cost or Pricing Data—Modifications (OCT 1997) |
| 52.215-14 | Integrity of Unit Prices (OCT 1997) |
| 52.215-15 | Pension Adjustment and Asset Reversions (DEC 1998) |
| 52.215-18 | Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other Than Pensions (OCT 1997) |
| 52.215-19 | Notification of Ownership Changes (OCT 1997) |
| 52.216-7 | Allowable Cost and Payment (APR 1998) |
| 52.216-8 | Fixed Fee (MAR 1997) |
| 52.219-8 | Utilization of Small, Small Disadvantaged, and Women-Owned Small Business Concerns (JAN 1999) |
| 52.219-9 | Small, Small Disadvantaged, and Women-Owned Small Business Subcontracting Plan (JAN 1999) Alternate II (MAR 1996) |
| 52.219-16 | Liquidated Damages--Subcontracting Plan (AUG 1998) |
| 52.222-1 | Notice to the Government of Labor Disputes (FEB 1997) |
| 52.222-3 | Convict Labor (AUG 1996) |
| 52.222-4 | Contract Work Hours and Safety Standards Act—Overtime Compensation (JUL 1995) |
| 52.222-26 | Equal Opportunity (APR 1984) |
| 52.222-28 | Equal Opportunity Preaward Clearance of Subcontracts (APR 1984) (DEVIATION) |
| 52.222-35 | Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (APR 1998) |
| 52.222-36 | Affirmative Action for Workers with Disabilities (JUN 1998) |
| 52.222-37 | Employment Reports on Disabled Veterans and Veterans of the Vietnam Era (APR 1998) |
| 52.222-50 | Nondisplacement of Qualified Workers (AUG 1997) |
| 52.223-2 | Clean Air and Water (APR 1984) |
| 52.223-3 | Hazardous Material Identification and Material Safety Data (JAN 1997)--Alternate I (JUL 1995) |
| 52.223-5 | Pollution Prevention and Right-To-Know Information (APR 1998) |
| 52.223-6 | Drug-Free Workplace (JAN 1997) |
| 52.223-10 | Waste Reduction Program (OCT 1997) |
| 52.223-14 | Toxic Chemical Release Reporting (OCT 1996) |
| 52.225-3 | Buy American Act--Supplies (JAN 1994) |
| 52.225-11 | Restrictions on Certain Foreign Purchases (AUG 1998) |
| 52.227-1 | Authorization and Consent (JUL 1995) |
| 52.227-2 | Notice and Assistance Regarding Patent and Copyright Infringement (AUG 1996) |
| 52.227-3 | Patent Indemnity (APR 1984) |
| 52.228-7 | Insurance--Liability to Third Persons (MAR 1996) |
| 52.230-2 | Cost Accounting Standards (APR 1998) |
| 52.230-3 | Disclosure and Consistency of Cost Accounting Practices (APR 1998) |
| 52.230-6 | Administration of Cost Accounting Standards (APR 1996) |
| 52.232-9 | Limitation on Withholding of Payments (APR 1984) |
| 52.232-17 | Interest (JUN 1996) |
| 52.232-22 | Limitation of Funds (APR 1984) |
| 52.232-23 | Assignment of Claims (JAN 1986) |
| 52.232-33 | Mandatory Information for Electronic Funds Transfer Payment (AUG 1996) |
| 52.233-1 | Disputes (DEC 1998)--Alternate I (DEC 1991) |
| 52.233-3 | Protest After Award (AUG 1996)--Alternate I (JUN 1985) |

| | |
|-----------|--|
| 52.237-2 | Protection of Government Buildings, Equipment and Vegetation (APR 1984) |
| 52.237-3 | Continuity of Services (JAN 1991) |
| 52.237-8 | Restriction on Severance Payments to Foreign Nationals (OCT 1995) |
| 52.237-9 | Waiver of Limitation on Severance Payments to Foreign Nationals (OCT 1995) |
| 52.242-1 | Notice of Intent to Disallow Costs (APR 1984) |
| 52.242-3 | Penalties for Unallowable Costs (OCT 1995) |
| 52.242-4 | Certification of Final Indirect Costs (JAN 1997) |
| 52.242-15 | Stop-Work Order (AUG 1989)--Alternate I (APR 1984) |
| 52.243-2 | Changes--Cost-Reimbursement (AUG 1987)--Alternate II (APR 1984) |
| 52.244-5 | Competition in Subcontracting (DEC 1996) |
| 52.245-1 | Property Records (APR 1984) |
| 52.245-5 | Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts) (JAN 1986)(DEVIATION) (JUL 1995) |
| 52.246-5 | Inspection of Services--Cost-Reimbursement (APR 1984) |
| 52.246-25 | Limitation of Liability--Services (FEB 1997) |
| 52.248-1 | Value Engineering (MAR 1989) |
| 52.249-6 | Termination (Cost-Reimbursement) (SEP 1996) |
| 52.249-14 | Excusable Delays (APR 1984) |
| 52.251-1 | Government Supply Sources (APR 1984) |
| 52.253-1 | Computer Generated Forms (JAN 1991) |

NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

CLAUSE NUMBER

TITLE AND DATE

| | |
|-------------|--|
| 1852.216-75 | Payment of Fixed Fee (DEC 1988) |
| 1852.216-89 | Assignment and Release Forms (JUL 1997) |
| 1852.219-74 | Use of Rural Area Small Businesses (SEP 1990) |
| 1852.219-75 | Small, Small Disadvantaged, and Women-Owned Small Business Subcontracting Reporting (JUL 1997) |
| 1852.219-76 | NASA 8 Percent Goal (JUL 1997) |
| 1852.223-70 | Safety and Health (MAR 1997) |
| 1852.223-74 | Drug and Alcohol-Free Workforce (MAR 1996) |
| 1852.228-75 | Minimum Insurance Coverage (OCT 1988) |
| 1852.237-70 | Emergency Evacuation Procedures (DEC 1988) |
| 1852.242-72 | Observance of Legal Holidays (AUG 1992)--Alternate I (SEP 1989) and Alternate II (SEP 1989) |
| 1852.242-73 | NASA Contractor Financial Management Reporting (JUL 1997) |
| 1852.243-71 | Shared Savings (MAR 1997) |
| 1852.245-70 | Contractor Requests for Government-Owned Equipment (JUL 1997) |
| 1852.245-71 | Installation-Accountable Government Property (JUN 1998)- Alternate I (MAR 1989) – Paragraph (a) “User responsibilities in accordance with NASA Handbook NHB 4200.1, NASA Equipment Management Manual” |

I.2 CLAUSES IN FULL TEXT

The clauses listed below follow in full text:

| | |
|-----------|--|
| 52.252-2 | Clauses Incorporated by Reference (FEB 1998) |
| 52.203-8 | Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity (JAN 1997) |
| 52.203-12 | Limitation on Payments to Influence Certain Federal Transactions (JUN 1997) |

| | |
|-------------|--|
| 52.215-21 | Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data—Modifications (OCT 1997)—Alternate IV (Oct 1997). |
| 52.219-23 | Notice of Price Adjustment for Small Disadvantaged Business Concerns (OCT 1998) Alternate I (OCT 1998) |
| 52.219-25 | Small Disadvantaged Business Participation Program-Disadvantaged Status and Reporting (JAN 1999) |
| 52.222-2 | Payment for Overtime Premiums (JUL 1990) |
| 52.222-41 | Service Contract Act of 1965, As Amended (MAY 1989) |
| 52.222-47 | Service Contract Act (SCA) Minimum Wages and Fringe Benefits (MAY 1989) |
| 52.225-3 | Buy American Act--Supplies (JAN 1994) |
| 52.232-25 | Prompt Payment (JUN 1997) |
| 52.242-13 | Bankruptcy (JUL 1995) |
| 52.244-2 | Subcontracts (AUG 1998)--Alternate I (AUG 1998) |
| 52.244-6 | Subcontracts for Commercial Items and Commercial Components (OCT 1998) |
| 52.252-6 | Authorized Deviations in Clauses (APR 1984) |
| 1852.204-75 | Security Classification Requirements (SEP 1989) |
| 1852.215-84 | Ombudsman (OCT 1996) |
| 1852.246-72 | Material Inspection and Receiving Report (JUN 1995) |

I.3 CLAUSES INCORPORATED BY REFERENCE (FAR 52.252-2) (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/>

<http://www.hq.nasa.gov/office/procurement/regs/nfstoc.htm>

I.4 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (FAR 52.203-8) (JAN 1997)

(a) If the Government receives information that a contractor or a person has engaged in conduct constituting a violation of subsection (a), (b), (c), or (d) of Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) (the Act), as amended by section 4304 of the 1996 National Defense Authorization Act for Fiscal Year 1996 (Pub. L. 104-106), the Government may--

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which--

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct constitutes a violation of subsection 27 (a) or (b) of the Act for the purpose of either--

(A) Exchanging the information covered by such subsections for anything of value; or

(B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or

(ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct constituting an offense punishable under subsections 27(e)(1) of the Act.

(b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.

(c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.

I.5 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS
(FAR 52.203-12) (JUN 1997)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

- (1) The awarding of any Federal contract.
- (2) The making of any Federal grant.
- (3) The making of any Federal loan.
- (4) The entering into of any cooperative agreement.
- (5) The extension, continuation, renewal, amendment, or modification of any Federal

contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before 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 in connection with any covered Federal action.

"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

- (1) An individual who is appointed to a position in the Government under Title 5, United States Code, including a position under a temporary appointment.
- (2) A member of the uniformed services, as defined in subsection 101(3), Title 37, United States Code.
- (3) A special Government employee, as defined in section 202, Title 18, United States Code.
- (4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, Title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

"State," as used in this clause, means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a territory or possession of the United States, an agency or

instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions. (1) Section 1352 of Title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay 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 in connection with any of the following covered Federal actions: 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; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure 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 in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action--

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure. (1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding \$100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties. (1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

I.6 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA--MODIFICATIONS (FAR 52.215-21) (OCT 1997) – ALTERNATE IV (OCT 1997)

- (a) Submission of cost or pricing data is not required.
- (b) Provide information described below:

The level of cost or pricing information will depend on the nature and complexity of the particular modification. The Government will provide detailed cost instructions on an “as-needed” basis.

I.7 NOTICE OF PRICE EVALUATION ADJUSTMENT FOR SMALL DISADVANTAGED BUSINESS CONCERNS (FAR 52.219-23) (OCT 1998) ALTERNATE I (OCT 1998)

- (a) Definitions. As used in this clause—

Small disadvantaged business concern means an offeror that represents, as part of its offer, that it is a small business under the size standard applicable to this acquisition; and either—

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

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

(ii) 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

(iii) It is listed, on the date of its representation, on the register of small disadvantaged business concerns maintained by the Small Business Administration;

(2) 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. In this case, in order to receive the benefit of a price evaluation adjustment, an offeror must receive certification as a small disadvantaged business concern by the Small Business Administration prior to contract award; or

(3) Is a joint venture as defined in 13 CFR 124.1002(f).

Historically black college or university means an institution determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. For the Department of Defense (DOD), the National Aeronautics and Space Administration (NASA), and the Coast Guard, the term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

Minority institution means an institution of higher education meeting the requirements of Section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)) which, for purposes of this clause, includes a Hispanic-serving institution of higher education as defined in Section 316(b)(1) of the Act (20 U.S.C. 1059c(b)(1)).

United States means the United States, its territories and possessions, the Commonwealth of Puerto Rico, the U.S. Trust Territory of the Pacific Islands, and the District of Columbia.

(b) Evaluation adjustment. (1) Offers will be evaluated by adding a factor of 10% [percentage to be inserted by the contracting officer] percent to the price of all offers, except—

(i) Offers from small disadvantaged business concerns that have not waived the adjustment;

(ii) For DOD, NASA, and Coast Guard acquisitions, otherwise successful offers from historically black colleges or universities or minority institutions;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is equaled or exceeded (see section 25.402 of the Federal Acquisition Regulation (FAR));

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government; and

(v) For DOD acquisitions, otherwise successful offers of qualifying country end products (see sections 225.000-70 and 252.225-7001 of the Defense FAR Supplement).

(2) The factor shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor. The factor may not be applied if using the adjustment would cause the contract award to be made at a price that exceeds the fair market price by more than the factor in paragraph (b)(1) of this clause.

(c) Waiver of evaluation adjustment. A small disadvantaged business concern may elect to waive the adjustment, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply to offers that waive the adjustment.

____ Offeror elects to waive the adjustment.

(d) Agreements. (1) A small disadvantaged business concern, that did not waive the adjustment, agrees that in performance of the contract, in the case of a contract for—

(i) Services, except construction, at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern;

(ii) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern;

(iii) General construction, at least 15 percent of the cost of the contract, excluding the cost of materials, will be performed by employees of the concern; or

(iv) Construction by special trade contractors, at least 25 percent of the cost of the contract, excluding the cost of materials, will be performed by employees of the concern.

(2) A small disadvantaged business concern submitting an offer in its own name agrees to furnish in performing this contract only end items manufactured or produced by small business concerns in the United States. This paragraph does not apply in connection with construction or service contracts.

I.8 SMALL DISADVANTAGED BUSINESS PARTICIPATION PROGRAM-DISADVANTAGED STATUS AND REPORTING(FAR 52.219-25) (JAN 1999)

(a) Disadvantaged status for joint venture partners, team members, and subcontractors. This clause addresses disadvantaged status for joint venture partners, teaming arrangement members, and subcontractors and is applicable if this contract contains small disadvantaged business (SDB) participation targets. The Contractor shall obtain representations of small disadvantaged status from joint venture partners, teaming arrangement members, and sub-contractors through use of a provision substantially the same as paragraph (b)(1)(i) of the provision at FAR 52.219-22, Small Disadvantaged Business Status. The Contractor shall confirm that a joint venture partner, team member, or subcontractor representing itself as a small disadvantaged business concern is included in the SBA's on-line list of SDBs at <http://www.sba.gov> or by contacting the SBA's Office of Small Disadvantaged Business Certification and Eligibility.

(b) Reporting requirement. If this contract contains SDB participation targets, the Contractor shall report on the participation of SDB concerns at contract completion, or as otherwise provided in this contract. Reporting may be on Optional Form 312, Small Disadvantaged Business Participation Report, or in the Contractor's own format providing the same information. This report is required for each contract containing SDB participation targets. If this contract contains an individual Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan, reports may be submitted with the final Subcontracting Report for Individual Contracts (Standard Form 294) at the completion of the contract.

I.9 PAYMENT FOR OVERTIME PREMIUMS (FAR 52.222-2) (JUL 1990)

(a) The use of overtime is authorized under this contract if the overtime premium cost does not exceed \$0 or the overtime premium is paid for work -

(1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdowns of production equipment, or occasional production bottlenecks of a sporadic nature;

- (2) By indirect-labor employees such as those performing duties in connection with administration, protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting;
 - (3) To perform tests, industrial processes, laboratory procedures, loading or unloading of transportation conveyances, and operations in flight or afloat that are continuous in nature and cannot reasonably be interrupted or completed otherwise; or
 - (4) That will result in lower overall costs to the Government.
- (b) Any request for estimated overtime premiums that exceeds the amount specified above shall include all estimated overtime for contract completion and shall -
- (1) Identify the work unit; e.g., department or section in which the requested overtime will be used, together with present workload, staffing, and other data of the affected unit sufficient to permit the Contracting Officer to evaluate the necessity for the overtime;
 - (2) Demonstrate the effect that denial of the request will have on the contract delivery or performance schedule;
 - (3) Identify the extent to which approval of overtime would affect the performance or payments in connection with other Government contracts, together with identification of each affected contract; and
 - (4) Provide reasons why the required work cannot be performed by using multishift operations or by employing additional personnel.

I.10 SERVICE CONTRACT ACT OF 1965, AS AMENDED (FAR 52.222-41) (MAY 1989)

(a) **Definitions.** "Act," as used in this clause, means the Service Contract Act of 1965, as amended (41 U.S.C. 351, et seq.).

"Contractor," as used in this clause or in any subcontract, shall be deemed to refer to the subcontractor, except in the term "Government Prime Contractor."

"Service employee," as used in this clause, means any person engaged in the performance of this contract other than any person employed in a bona fide executive, administrative, or professional capacity, as these terms are defined in Part 541 of Title 29, Code of Federal Regulations, as revised. It includes all such persons regardless of any contractual relationship that may be alleged to exist between a Contractor or subcontractor and such persons.

(b) **Applicability.** This contract is subject to the following provisions and to all other applicable provisions of the Act and regulations of the Secretary of Labor (29 CFR Part 4). This clause does not apply to contracts or subcontracts administratively exempted by the Secretary of Labor or exempted by 41 U.S.C. 356, as interpreted in Subpart C of 29 CFR Part 4.

(c) **Compensation.**

(1) Each service employee employed in the performance of this contract by the Contractor or any subcontractor shall be paid not less than the minimum monetary wages and shall be furnished fringe benefits in accordance with the wages and fringe benefits determined by the Secretary of Labor, or authorized representative, as specified in any wage determination attached to this contract.

(2) (i) If a wage determination is attached to this contract, the Contractor shall classify any class of service employee which is not listed therein and which is to be employed under this contract (i.e., the work to be performed is not performed by any classification listed in the wage determination) so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed class of employees shall be paid the monetary wages and furnished the fringe benefits as are determined pursuant to the procedures in this paragraph (c).

(ii) This conforming procedure shall be initiated by the Contractor prior to the performance of contract work by the unlisted class of employee. The Contractor shall submit Standard Form (SF) 1444, Request For Authorization of Additional Classification and Rate, to the Contracting Officer no later than 30 days after the unlisted class of employee performs any contract work. The Contracting Officer shall review the proposed classification and rate and promptly submit the completed SF 1444 (which must include information regarding the agreement or disagreement of the employees' authorized representatives or the employees themselves together with the agency recommendation), and all pertinent information to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor. The Wage and Hour Division will approve, modify, or disapprove the action or

render a final determination in the event of disagreement within 30 days of receipt or will notify the Contracting Officer within 30 days of receipt that additional time is necessary.

(iii) The final determination of the conformance action by the Wage and Hour Division shall be transmitted to the Contracting Officer who shall promptly notify the Contractor of the action taken. Each affected employee shall be furnished by the Contractor with a written copy of such determination or it shall be posted as a part of the wage determination.

(iv) (A) The process of establishing wage and fringe benefit rates that bear a reasonable relationship to those listed in a wage determination cannot be reduced to any single formula. The approach used may vary from wage determination to wage determination depending on the circumstances. Standard wage and salary administration practices which rank various job classifications by pay grade pursuant to point schemes or other job factors may, for example, be relied upon. Guidance may also be obtained from the way different jobs are rated under Federal pay systems (Federal Wage Board Pay System and the General Schedule) or from other wage determinations issued in the same locality. Basic to the establishment of any conformable wage rate(s) is the concept that a pay relationship should be maintained between job classifications based on the skill required and the duties performed.

(B) In the case of a contract modification, an exercise of an option, or extension of an existing contract, or in any other case where a Contractor succeeds a contract under which the classification in question was previously conformed pursuant to paragraph (c) of this clause, a new conformed wage rate and fringe benefits may be assigned to the conformed classification by indexing (i.e., adjusting) the previous conformed rate and fringe benefits by an amount equal to the average (mean) percentage increase (or decrease, where appropriate) between the wages and fringe benefits specified for all classifications to be used on the contract which are listed in the current wage determination, and those specified for the corresponding classifications in the previously applicable wage determination. Where conforming actions are accomplished in accordance with this paragraph prior to the performance of contract work by the unlisted class of employees, the Contractor shall advise the Contracting Officer of the action taken but the other procedures in subdivision (c)(ii) of this clause need not be followed.

(C) No employee engaged in performing work on this contract shall in any event be paid less than the currently applicable minimum wage specified under section 6(a)(1) of the Fair Labor Standards Act of 1938, as amended.

(v) The wage rate and fringe benefits finally determined under this subparagraph (c)(2) of this clause shall be paid to all employees performing in the classification from the first day on which contract work is performed by them in the classification. Failure to pay the unlisted employees the compensation agreed upon by the interested parties and/or finally determined by the Wage and Hour Division retroactive to the date such class of employees commenced contract work shall be a violation of the Act and this contract.

(vi) Upon discovery of failure to comply with subparagraph (c)(2) of this clause, the Wage and Hour Division shall make a final determination of conformed classification, wage rate, and/or fringe benefits which shall be retroactive to the date such class or classes of employees commenced contract work.

(3) **Adjustment of Compensation.** If the term of this contract is more than 1 year, the minimum monetary wages and fringe benefits required to be paid or furnished thereunder to service employees under this contract shall be subject to adjustment after 1 year and not less often than once every 2 years, under wage determinations issued by the Wage and Hour Division.

(d) **Obligation to Furnish Fringe Benefits.** The Contractor or subcontractor may discharge the obligation to furnish fringe benefits specified in the attachment or determined under subparagraph (c)(2) of this clause by furnishing equivalent combinations of bona fide fringe benefits, or by making equivalent or differential cash payments, only in accordance with Subpart D of 29 CFR Part 4.

(e) **Minimum Wage.** In the absence of a minimum wage attachment for this contract, neither the Contractor nor any subcontractor under this contract shall pay any person performing work under this contract (regardless of whether the person is a service employee) less than the minimum wage specified by section 6(a)(1) of the Fair Labor Standards Act of 1938. Nothing in this clause shall relieve the Contractor or any subcontractor of any other obligation under law or contract for the payment of a higher wage to any employee.

(f) **Successor Contracts.** If this contract succeeds a contract subject to the Act under which substantially the same services were furnished in the same locality and service employees were paid

wages and fringe benefits provided for in a collective bargaining agreement, in the absence of the minimum wage attachment for this contract setting forth such collectively bargained wage rates and fringe benefits, neither the Contractor nor any subcontractor under this contract shall pay any service employee performing any of the contract work (regardless of whether or not such employee was employed under the predecessor contract), less than the wages and fringe benefits provided for in such collective bargaining agreement, to which such employee would have been entitled if employed under the predecessor contract, including accrued wages and fringe benefits and any prospective increases in wages and fringe benefits provided for under such agreement. No Contractor or subcontractor under this contract may be relieved of the foregoing obligation unless the limitations of 29 CFR 4.1b(b) apply or unless the Secretary of Labor or the Secretary's authorized representative finds, after a hearing as provided in 29 CFR 4.10 that the wages and/or fringe benefits provided for in such agreement are substantially at variance with those which prevail for services of a character similar in the locality, or determines, as provided in 29 CFR 4.11, that the collective bargaining agreement applicable to service employees employed under the predecessor contract was not entered into as a result of arm's length negotiations. Where it is found in accordance with the review procedures provided in 29 CFR 4.10 and/or 4.11 and Parts 6 and 8 that some or all of the wages and/or fringe benefits contained in a predecessor Contractor's collective bargaining agreement are substantially at variance with those which prevail for services of a character similar in the locality, and/or that the collective bargaining agreement applicable to service employees employed under the predecessor contract was not entered into as a result of arm's length negotiations, the Department will issue a new or revised wage determination setting forth the applicable wage rates and fringe benefits. Such determination shall be made part of the contract or subcontract, in accordance with the decision of the Administrator, the Administrative Law Judge, or the Board of Service Contract Appeals, as the case may be, irrespective of whether such issuance occurs prior to or after the award of a contract or subcontract (53 Comp. Gen. 401 (1973)). In the case of a wage determination issued solely as a result of a finding of substantial variance, such determination shall be effective as of the date of the final administrative decision.

(g) **Notification to Employees.** The Contractor and any subcontractor under this contract shall notify each service employee commencing work on this contract of the minimum monetary wage and any fringe benefits required to be paid pursuant to this contract, or shall post the wage determination attached to this contract. The poster provided by the Department of Labor (Publication WH 1313) shall be posted in a prominent and accessible place at the worksite. Failure to comply with this requirement is a violation of Section 2(a)(4) of the Act and of this contract.

(h) **Safe and Sanitary Working Conditions.** The Contractor or subcontractor shall not permit any part of the services called for by this contract to be performed in buildings or surroundings or under working conditions provided by or under the control or supervision of the Contractor or subcontractor which are unsanitary, hazardous, or dangerous to the health or safety of the service employees. The Contractor or subcontractor shall comply with the safety and health standards applied under 29 CFR Part 1925.

(i) **Records.** (1) The Contractor and each subcontractor performing work subject to the Act shall make and maintain for 3 years from the completion of the work, and make them available for inspection and transcription by authorized representatives of the Wage and Hour Division, Employment Standards Administration, a record of the following:

(i) For each employee subject to the Act -

- (A) Name and address and social security number;
- (B) Correct work classification or classifications, rate or rates of monetary wages paid and fringe benefits provided, rate or rates of payments in lieu of fringe benefits, and total daily and weekly compensation;
- (C) Daily and weekly hours worked by each employee; and
- (D) Any deductions, rebates, or refunds from the total daily or weekly compensation of each employee.

(ii) For those classes of service employees not included in any wage determination attached to this contract, wage rates or fringe benefits determined by the interested parties or by the Administrator or authorized representative, under the terms of paragraph (c) of this clause. A copy of the report required by subdivision (c)(2)(ii) of this clause will fulfill this requirement.

(iii) Any list of the predecessor Contractor's employees which had been furnished to the Contractor as prescribed by paragraph (n) of this clause.

(2) The Contractor shall also make available a copy of this contract for inspection or transcription by authorized representatives of the Wage and Hour Division.

(3) Failure to make and maintain or to make available these records for inspection and transcription shall be a violation of the regulations and this contract, and in the case of failure to produce these records, the Contracting Officer, upon direction of the Department of Labor and notification to the Contractor, shall take action to cause suspension of any further payment or advance of funds until such violation ceases.

(4) The Contractor shall permit authorized representatives of the Wage and Hour Division to conduct interviews with employees at the worksite during normal working hours.

(j) **Pay Periods.** The Contractor shall unconditionally pay to each employee subject to the Act all wages due free and clear and without subsequent deduction (except as otherwise provided by law or Regulations, 29 CFR Part 4), rebate, or kickback on any account. These payments shall be made no later than one pay period following the end of the regular pay period in which the wages were earned or accrued. A pay period under this Act may not be of any duration longer than semi-monthly.

(k) **Withholding of Payment and Termination of Contract.** The Contracting Officer shall withhold or cause to be withheld from the Government Prime Contractor under this or any other Government contract with the Prime Contractor such sums as an appropriate official of the Department of Labor requests or such sums as the Contracting Officer decides may be necessary to pay underpaid employees employed by the Contractor or subcontractor. In the event of failure to pay any employees subject to the Act all or part of the wages or fringe benefits due under the Act, the Contracting Officer may, after authorization or by direction of the Department of Labor and written notification to the Contractor, take action to cause suspension of any further payment or advance of funds until such violations have ceased. Additionally, any failure to comply with the requirements of this clause may be grounds for termination of the right to proceed with the contract work. In such event, the Government may enter into other contracts or arrangements for completion of the work, charging the Contractor in default with any additional cost.

(l) **Subcontracts.** The Contractor agrees to insert this clause in all subcontracts subject to the Act.

(m) **Collective Bargaining Agreements Applicable to Service Employees.** If wages to be paid or fringe benefits to be furnished any service employees employed by the Government Prime Contractor or any subcontractor under the contract are provided for in a collective bargaining agreement which is or will be effective during any period in which the contract is being performed, the Government Prime Contractor shall report this fact to the Contracting Officer, together with full information as to the application and accrual of such wages and fringe benefits, including any prospective increases, to service employees engaged in work on the contract, and a copy of the collective bargaining agreement. Such report shall be made upon commencing performance of the contract, in the case of collective bargaining agreements effective at such time, and in the case of such agreements or provisions or amendments thereof effective at a later time during the period of contract performance such agreements shall be reported promptly after negotiation thereof.

(n) **Seniority List.** Not less than 10 days prior to completion of any contract being performed at a Federal facility where service employees may be retained in the performance of the succeeding contract and subject to a wage determination which contains vacation or other benefit provisions based upon length of service with a Contractor (predecessor) or successor (29 CFR Part 4.173), the incumbent Prime Contractor shall furnish the Contracting Officer a certified list of the names of all service employees on the Contractor's or subcontractor's payroll during the last month of contract performance. Such list shall also contain anniversary dates of employment on the contract either with the current or predecessor Contractors of each such service employee. The Contracting Officer shall turn over such list to the successor Contractor at the commencement of the succeeding contract.

(o) **Rulings and Interpretations.** Rulings and interpretations of the Act are contained in Regulations, 29 CFR Part 4.

(p) **Contractor's Certification.**

(1) By entering into this contract, the Contractor (and officials thereof) certifies that neither it (nor he or she) nor any person or firm who has substantial interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of the sanctions imposed under section 5 of the Act.

(2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract under section 5 of the Act.

(3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(q) **Variations, Tolerances, and Exemptions Involving Employment.** Notwithstanding any of the provisions in paragraphs (b) through (o) of this clause, the following employees may be employed in accordance with the following variations, tolerances, and exemptions, which the Secretary of Labor, pursuant to section 4(b) of the Act prior to its amendment by Public L. 92-473, found to be necessary and proper in the public interest or to avoid serious impairment of the conduct of Government business.

(1) Apprentices, student-learners, and workers whose earning capacity is impaired by age, physical or mental deficiency, or injury may be employed at wages lower than the minimum wages otherwise required by section 2(a)(1) or 2(b)(1) of the Act without diminishing any fringe benefits or cash payments in lieu thereof required under section 2(a)(2) of the Act, in accordance with the conditions and procedures prescribed for the employment of apprentices, student-learners, handicapped persons, and handicapped clients of sheltered workshops under Section 14 of the Fair Labor Standards Act of 1938, in the regulations issued by the Administrator (29 CFR Parts 520, 521, 524, and 525).

(2) The Administrator will issue certificates under the Act for the employment of apprentices, student-learners, handicapped persons, or handicapped clients of sheltered workshops not subject to the Fair Labor Standards Act of 1938, or subject to different minimum rates of pay under the two acts, authorizing appropriate rates of minimum wages (but without changing requirements concerning fringe benefits or supplementary cash payments in lieu thereof), applying procedures prescribed by the applicable regulations issued under the Fair Labor Standards Act of 1938 (29 CFR Parts 520, 521, 524, and 525).

(3) The Administrator will also withdraw, annul, or cancel such certificates in accordance with the regulations in 29 CFR Parts 525 and 528.

(r) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed and individually registered in a bona fide apprenticeship program registered with a State Apprenticeship Agency which is recognized by the U.S. Department of Labor, or if no such recognized agency exists in a State, under a program registered with the Bureau of Apprenticeship and Training, Employment and Training Administration, U.S. Department of Labor. Any employee who is not registered as an apprentice in an approved program shall be paid the wage rate and fringe benefits contained in the applicable wage determination for the journeyman classification of work actually performed. The wage rates paid apprentices shall not be less than the wage rate for their level of progress set forth in the registered program, expressed as the appropriate percentage of the journeyman's rate contained in the applicable wage determination. The allowable ratio of apprentices to journeymen employed on the contract work in any craft classification shall not be greater than the ratio permitted to the Contractor as to his entire work force under the registered program.

(s) **Tips.** An employee engaged in an occupation in which the employee customarily and regularly receives more than \$30 a month in tips may have the amount of tips credited by the employer against the minimum wage required by section 2(a)(1) or section 2(b)(1) of the Act, in accordance with section 3(m) of the Fair Labor Standards Act and Regulations 29 CFR Part 531. However, that the amount of credit shall not exceed \$1.34 per hour beginning January 1, 1981. To use this provision -

(1) The employer must inform tipped employees about this tip credit allowance before the credit is utilized;

(2) The employees must be allowed to retain all tips (individually or through a pooling arrangement and regardless of whether the employer elects to take a credit for tips received);

(3) The employer must be able to show by records that the employee receives at least the applicable Service Contract Act minimum wage through the combination of direct wages and tip credit; and

(4) The use of such tip credit must have been permitted under any predecessor collective bargaining agreement applicable by virtue of section 4(c) of the Act.

(t) **Disputes Concerning Labor Standards.** The U.S. Department of Labor has set forth in 29 CFR Parts 4, 6, and 8 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

I.11 SERVICE CONTRACT ACT (SCA) MINIMUM WAGES AND FRINGE BENEFITS
(FAR 52.222-47) (MAY 1989)

A SCA Wage determination applicable to this work has been requested from the U.S. Department of Labor. If an SCA wage determination is not incorporated herein, the bidders/offerors shall consider the economic terms of the collective bargaining agreements (CBA's) between the incumbent contractors and the respective unions, as follows:

| <u>Incumbent Contractor</u> | <u>Union</u> |
|---|--|
| EG&G Langley, Inc. | International Brotherhood of Electrical Workers, AFL-CIO Local Union No. 1340 |
| Diversified Technology and Virginia, Inc. | District Lodge 74 International Association of Services of Machinists and Aerospace Workers. |

If the economic terms of the CBA's or the CBA's themselves are not attached to the solicitation, copies can be obtained from the Contracting Officer. Pursuant to Department of Labor Regulation, 29 CFR 4.1b and paragraph (g) of the clause at 52.222-41, Service Contract Act of 1965, as amended, the economic terms of that agreement will apply to the contract resulting from this solicitation, notwithstanding the absence of a wage determination reflecting such terms, unless it is determined that the agreement was not the result of arm's length negotiations or that after a hearing pursuant to section 4(c) of the Act, the economic terms of the agreement are substantially at variance with the wages prevailing in the area.

I.12 BUY AMERICAN ACT - SUPPLIES (FAR 52.225-3) (JAN 1994)

(a) The Buy American Act (41 U.S.C. 10) provides that the Government give preference to domestic end products.

"Components," as used in this clause, means those articles, materials, and supplies incorporated directly into the end products.

"Domestic end product," as used in this clause, means (1) an unmanufactured end product mined or produced in the United States, or (2) an end product manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind as the products referred to in subparagraphs (b)(2) or (3) of this clause shall be treated as domestic. Scrap generated, collected, and prepared for processing in the United States is considered domestic. "End products," as used in this clause, means those articles, materials, and supplies to be acquired for public use under this contract.

(b) The Contractor shall deliver only domestic end products, except those -

(1) For use outside the United States;

(2) That the Government determines are not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality;

(3) For which the agency determines that domestic preference would be inconsistent with the public interest; or

(4) For which the agency determines the cost to be unreasonable (see Section 25.105 of the Federal Acquisition Regulation).

I.13 PROMPT PAYMENT (FAR 52.232-25) (JUN 1997)

Notwithstanding any other payment clause in this contract, the Government will make invoice payments and contract financing payments under the terms and conditions specified in this clause. Payment shall be considered as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in section 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see subparagraph (a)(4) of this clause concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--(1) Due date. (i) Except as indicated in subparagraph (a)(2) and paragraph (c) of this clause, the due date for making invoice payments by the designated payment office shall be the later of the following two events:

(A) The 30th day after the designated billing office has received a proper invoice from the Contractor (except as provided in subdivision (a)(1)(ii) of this clause).

(B) The 30th day after Government acceptance of supplies delivered or services performed by the Contractor. On a final invoice where the payment amount is subject to contract settlement actions, acceptance shall be deemed to have occurred on the effective date of the contract settlement.

(ii) If the designated billing office fails to annotate the invoice with the actual date of receipt at the time of receipt, the invoice payment due date shall be the 30th day after the date of the Contractor's invoice; provided a proper invoice is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Certain food products and other payments. (i) Due dates on Contractor invoices for meat, meat food products, or fish; perishable agricultural commodities; and dairy products, edible fats or oils, and food products prepared from edible fats or oils are--

(A) For meat or meat food products, as defined in section 2(a)(3) of the Packers and Stockyard Act of 1921 (7 U.S.C. 182(3)), and as further defined in Pub. L. 98-181, including any edible fresh or frozen poultry meat, any perishable poultry meat food product, fresh eggs, and any perishable egg product, as close as possible to, but not later than, the 7th day after product delivery.

(B) For fresh or frozen fish, as defined in section 204(3) of the Fish and Seafood Promotion Act of 1986 (16 U.S.C. 4003(3)), as close as possible to, but not later than, the 7th day after product delivery.

(C) For perishable agricultural commodities, as defined in section 1(4) of the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(4)), as close as possible to, but not later than, the 10th day after product delivery, unless another date is specified in the contract.

(D) For dairy products, as defined in section 111(e) of the Dairy Production Stabilization Act of 1983 (7 U.S.C. 4502(e)), edible fats or oils, and food products prepared from edible fats or oils, as close as possible to, but not later than, the 10th day after the date on which a proper invoice has been received. Liquid milk, cheese, certain processed cheese products, butter, yogurt, ice cream, mayonnaise, salad dressings, and other similar products, fall within this classification. Nothing in the Act limits this classification to refrigerated products. When questions arise regarding the proper classification of a specific product, prevailing industry practices will be followed in specifying a contract payment due date. The burden of proof that a classification of a specific product is, in fact, prevailing industry practice is upon the Contractor making the representation.

(ii) If the contract does not require submission of an invoice for payment (e.g., periodic lease payments), the due date will be as specified in the contract.

(3) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in subdivisions (a)(3)(i) through (a)(3)(viii) of this clause. If the invoice does not comply with these requirements, it shall be returned within 7 days after the date the designated billing office received the invoice (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, edible fats or oils, and food products prepared from edible fats or oils), with a statement of the reasons why it is not a proper invoice. Untimely notification will be taken into account in computing any interest penalty owed the Contractor in the manner described in subparagraph (a)(5) of this clause.

(i) Name and address of the Contractor.

(ii) Invoice date. (The Contractor is encouraged to date invoices as close as possible to the date of the mailing or transmission.)

(iii) Contract number or other authorization for supplies delivered or services performed (including order number and contract line item number).

(iv) Description, quantity, unit of measure, unit price, and extended price of supplies delivered or services performed.

(v) Shipping and payment terms (e.g., shipment number and date of shipment, prompt payment discount terms). Bill of lading number and weight of shipment will be shown for shipments on Government bills of lading.

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to be notified in the event of a defective invoice.

(viii) Any other information or documentation required by the contract (such as evidence of shipment).

(ix) While not required, the Contractor is strongly encouraged to assign an identification number to each invoice.

(4) Interest penalty. An interest penalty shall be paid automatically by the designated payment office, without request from the Contractor, if payment is not made by the due date and the conditions listed in subdivisions (a)(4)(i) through (a)(4)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day without incurring a late payment interest penalty.

(i) A proper invoice was received by the designated billing office.

(ii) A receiving report or other Government documentation authorizing payment was processed, and there was no disagreement over quantity, quality, or Contractor compliance with any contract term or condition.

(iii) In the case of a final invoice for any balance of funds due the Contractor for supplies delivered or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(5) Computing penalty amount. The interest penalty shall be at the rate established by the Secretary of the Treasury under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) that is in effect on the day after the due date, except where the interest penalty is prescribed by other governmental authority (e.g., tariffs). This rate is referred to as the "Renegotiation Board Interest Rate," and it is published in the Federal Register semiannually on or about January 1 and July 1. The interest penalty shall accrue daily on the invoice principal payment amount approved by the Government until the payment date of such approved principal amount; and will be compounded in 30-day increments inclusive from the first day after the due date through the payment date. That is, interest accrued at the end of any 30-day period will be added to the approved invoice principal payment amount and will be subject to interest penalties if not paid in the succeeding 30-day period. If the designated billing office failed to notify the Contractor of a defective invoice within the periods prescribed in subparagraph (a)(3) of this clause, the due date on the corrected invoice will be adjusted by subtracting from such date the number of days taken beyond the prescribed notification of defects period. Any interest penalty owed the Contractor will be based on this adjusted due date. Adjustments will be made by the designated payment office for errors in calculating interest penalties.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor, Government acceptance shall be deemed to have occurred constructively on the 7th day (unless otherwise specified in this contract) after the Contractor delivered the supplies or performed the services in accordance with the terms and conditions of the contract, unless there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. In the event that actual acceptance occurs within the constructive acceptance period, the determination of an interest penalty shall be based on the actual date of acceptance. The constructive acceptance requirement does not, however, compel Government officials to accept supplies or services, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The following periods of time will not be included in the determination of an interest penalty:

(A) The period taken to notify the Contractor of defects in invoices submitted to the Government, but this may not exceed 7 days (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, dairy products, edible fats or oils, and food products prepared from edible fats or oils).

(B) The period between the defects notice and resubmission of the corrected invoice by the Contractor.

(C) For incorrect electronic funds transfer (EFT) information, in accordance with the EFT clause of this contract.

(iii) Interest penalties will not continue to accrue after the filing of a claim for such penalties under the clause at 52.233-1, Disputes, or for more than 1 year. Interest penalties of less than \$1 need not be paid.

(iv) Interest penalties are not required on payment delays due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance or on amounts temporarily withheld or retained in accordance with the terms of the contract. Claims involving disputes, and any interest that may be payable, will be resolved in accordance with the clause at 52.233-1, Disputes.

(6) Prompt payment discounts. An interest penalty also shall be paid automatically by the designated payment office, without request from the Contractor, if a discount for prompt payment is taken improperly. The interest penalty will be calculated as described in subparagraph (a)(5) of this clause on the amount of discount taken for the period beginning with the first day after the end of the discount period through the date when the Contractor is paid.

(7) Additional interest penalty. (i) A penalty amount, calculated in accordance with subdivision (a)(7)(iii) of this clause, shall be paid in addition to the interest penalty amount if the Contractor--

(A) Is owed an interest penalty of \$1 or more;

(B) Is not paid the interest penalty within 10 days after the date the invoice amount is paid; and

(C) Makes a written demand to the designated payment office for additional penalty payment, in accordance with subdivision (a)(7)(ii) of this clause, postmarked not later than 40 days after the invoice amount is paid.

(ii)(A) Contractors shall support written demands for additional penalty payments with the following data. No additional data shall be required. Contractors shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) Demands must be postmarked on or before the 40th day after payment was made, except that--

(1) If the postmark is illegible or nonexistent, the demand must have been received and annotated with the date of receipt by the designated payment office on or before the 40th day after payment was made; or

(2) If the postmark is illegible or nonexistent and the designated payment office fails to make the required annotation, the demand's validity will be determined by the date the Contractor has placed on the demand; provided such date is no later than the 40th day after payment was made.

(iii)(A) The additional penalty shall be equal to 100 percent of any original late payment interest penalty except--

(1) The additional penalty shall not exceed \$5,000;

(2) The additional penalty shall never be less than \$25; and

(3) No additional penalty is owed if the amount of the underlying interest penalty is less than \$1.

(B) If the interest penalty ceases to accrue in accordance with the limits stated in subdivision (a)(5)(iii) of this clause, the amount of the additional penalty shall be calculated on the amount of interest penalty that would have accrued in the absence of these limits, subject to the overall limits on the additional penalty specified in subdivision (a)(7)(iii)(A) of this clause.

(C) For determining the maximum and minimum additional penalties, the test shall be the interest penalty due on each separate payment made for each separate contract. The maximum and minimum additional penalty shall not be based upon individual invoices unless the invoices are paid separately. Where payments are consolidated for disbursing purposes, the maximum and minimum additional penalty determination shall be made separately for each contract therein.

(D) The additional penalty does not apply to payments regulated by other Government regulations (e.g., payments under utility contracts subject to tariffs and regulation).

(b) Contract financing payments--(1) Due dates for recurring financing payments. If this contract provides for contract financing, requests for payment shall be submitted to the designated billing office as specified in this contract or as directed by the Contracting Officer. Contract financing payments shall be made on the [insert day as prescribed by Agency head; if not prescribed, insert 30th day] day after receipt of a proper contract financing request by the designated billing office. In the event that an audit or other review of a specific financing request is required to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the due date specified.

(2) Due dates for other contract financing. For advance payments, loans, or other arrangements that do not involve recurring submissions of contract financing requests, payment shall be made in accordance with the corresponding contract terms or as directed by the Contracting Officer.

(3) Interest penalty not applicable. Contract financing payments shall not be assessed an interest penalty for payment delays.

(c) Fast payment procedure due dates. If this contract contains the clause at 52.213-1, Fast Payment Procedure, payments will be made within 15 days after the date of receipt of the invoice.

I.14 BANKRUPTCY (FAR 52.242-13) (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

I.15 SUBCONTRACTS (FAR 52.244-2) (AUG 1998) ALTERNATE I (AUG 1998)

(a) Definitions. As used in this clause--

"Approved purchasing system" means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

"Consent to subcontract" means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

"Subcontract" means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

(b) This clause does not apply to subcontracts for special test equipment when the contract contains the clause at FAR 52.245-18, Special Test Equipment.

(c) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (d) or (e) of this clause.

(d) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that--

(1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or

(2) Is fixed-price and exceeds--

(i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or

(ii) For a contract awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(e) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

(f)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (c), (d), or (e) of this clause, including the following information:

- (i) A description of the supplies or services to be subcontracted.
- (ii) Identification of the type of subcontract to be used.
- (iii) Identification of the proposed subcontractor.
- (iv) The proposed subcontract price.
- (v) The subcontractor's current, complete, and accurate cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.
- (vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.
- (vii) A negotiation memorandum reflecting--
 - (A) The principal elements of the subcontract price negotiations;
 - (B) The most significant considerations controlling establishment of initial or revised prices;
 - (C) The reason cost or pricing data were or were not required;
 - (D) The extent, if any, to which the Contractor did not rely on the subcontractor's cost or pricing data in determining the price objective and in negotiating the final price;
 - (E) The extent to which it was recognized in the negotiation that the subcontractor's cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;
 - (F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and
 - (G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) If the Contractor has an approved purchasing system and consent is not required under paragraph (c), (d), or (e) of this clause, the Contractor nevertheless shall notify the Contracting Officer reasonably in advance of entering into any (i) cost-plus-fixed-fee subcontract, or (ii) fixed-price subcontract that exceeds the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of this contract. The notification shall include the information required by paragraphs (f)(1)(i) through (f)(1)(iv) of this clause.

(g) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination--

- (1) Of the acceptability of any subcontract terms or conditions;
 - (2) Of the allowability of any cost under this contract; or
 - (3) To relieve the Contractor of any responsibility for performing this contract.
- (h) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).
- (i) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.
- (j) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.
- (k) Paragraphs (d) and (f) of this clause do not apply to the following subcontracts, which were evaluated during negotiations:

I.16 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS
(FAR 52.244-6) (OCT 1998)

(a) Definitions.

"Commercial item," as used in this clause, has the meaning contained in the clause at 52.202-1 Definitions.

"Subcontract," as used in this clause, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c) Notwithstanding any other clause of this contract, the Contractor is not required to include any FAR provision or clause, other than those listed below to the extent they are applicable and as may be required to establish the reasonableness of prices under Part 15, in a subcontract at any tier for commercial items or commercial components:

(1) 52.222-26, Equal Opportunity (E.O. 11246);

(2) 52.222-35, Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C. 4212(a));

(3) 52.222-36, Affirmative Action for Workers with Disabilities (29 U.S.C. 793); and

(4) 52.247-64, Preference for Privately Owned U.S.-Flagged Commercial Vessels (46 U.S.C. 1241) (flow down not required for subcontracts awarded beginning May 1, 1996).

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

I.17 AUTHORIZED DEVIATIONS IN CLAUSES (FAR 52.252-6) (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any NASA/FAR Supplement (48 CFR Chapter 18) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

I.18 SECURITY CLASSIFICATION REQUIREMENTS (NASA 1852.204-75)
(SEP 1989)

Performance under this contract will involve access to and/or generation of classified information, work in a security area, or both, up to the level of Secret. See Federal Acquisition Regulation clause 52.204-2 in this contract and DD Form 254, Contract Security Classification Specification, Exhibit A.

I.19 OMBUDSMAN (NASA 1852.215-84) (OCT 1996)

An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and Contractors during the preaward and postaward phases of this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman is not to diminish the authority of the Contracting Officer, the Source Evaluation Board, or the selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with an ombudsman, interested parties must first address their concerns, issues,

disagreements, and/or recommendations to the Contracting Officer for resolution. If resolution cannot be made by the Contracting Officer, interested parties may contact the installation ombudsman, Belinda Adams, direct inquiries to Sandra S. Ray at (757) 864-2428. Concerns, issues, disagreements, and recommendations which cannot be resolved at the installation may be referred to the NASA ombudsman, the Deputy Administrator for Procurement, Thomas S. Luedtke, at 202-358-2090. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

I.20 MATERIAL INSPECTION AND RECEIVING REPORT (NASA 1852.246-72) (JUN 1995)

(a) At the time of each delivery to the Government under this contract, the Contractor shall furnish a Material Inspection and Receiving Report (DD Form 250 series) prepared in two copies, an original and one copy.

(b) The Contractor shall prepare the DD Form 250 in accordance with NASA FAR Supplement 18-46.672-1. The Contractor shall enclose the copies of the DD Form 250 in the package or seal them in a waterproof envelope which shall be securely attached to the exterior of the package in the most protected location.

(c) When more than one package is involved in a shipment, the Contractor shall list on the DD Form 250, as additional information, the quantity of packages and the package numbers. The Contractor shall forward the DD Form 250 with the lowest numbered package of the shipment and print the words "CONTAINS DD FORM 250" on the package.

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

SECTION J - LIST OF ATTACHMENTS

| | |
|-----------|---|
| Exhibit A | Contract Security Classification Specification, DD Form 254 |
| Exhibit B | Contract Documentation Requirements |
| Exhibit C | RESERVED |
| Exhibit D | Register of Wage Determinations and Fringe Benefits |
| Exhibit E | Collective Bargaining Agreements |
| Exhibit F | Power Dispatcher Duties and Load Shedding Guide |
| Exhibit G | Schedule for Calibration of the O ₂ Monitoring Systems |
| Exhibit H | Subcontracting Plan |

The following are located after the last section of this solicitation:

| | |
|---------------|--|
| Attachment 1 | Relevant Experience and Past Performance Evaluation Instructions/Questionnaire |
| Attachment 2 | Facility Descriptions |
| Attachment 3 | Current Standard Operating Procedures (SOP's), Integrated Operating Plans (IOP's), Maintenance Inspection Procedures (MIP's) and Checklists |
| Attachment 4 | Historical Listing of Nitrogen Delivery Sites and Quantities |
| Attachment 5 | Acronyms and Definitions |
| Attachment 6 | Internet Addresses (URL's) for Langley Handbooks (LHB's), Langley Procedures and Guidelines (LAGP's), Langley Procedure Directives (LPD's), and NASA Management Instructions (NMI's) |
| Attachment 7 | Sample Monthly Power Report |
| Attachment 8 | Sample Change Notification Sheet |
| Attachment 9 | Listing of Critical Reserve Items and Minimum Stocking Levels |
| Attachment 10 | Listing of Typical Consumables |
| Attachment 11 | Government-Estimated Staffing and Position Qualifications |
| Attachment 12 | Draft RFP Questions and Answers |
| Attachment 13 | Presolicitation Conference – List of Attendees/Viewgraphs |

EXHIBIT A

CONTRACT SECURITY CLASSIFICATION SPECIFICATION, DD FORM 254

| DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION <i>(The requirements of the DoD Industrial Security Manual apply to all security aspects of this effort.)</i> | | | | 1. CLEARANCE AND SAFEGUARDING | | | |
|--|---|----------------------------|--|--|----------------------------------|----------|----------|
| | | | | A. Facility Clearance Required SECRET | | | |
| | | | | B. Level Of Safeguarding Required NONE | | | |
| 2. THIS SPECIFICATION IS FOR: <i>(X and complete as applicable)</i> | | | 3. THIS SPECIFICATION IS: <i>(X and complete as applicable)</i> | | | | |
| A. PRIME CONTRACT NUMBER | | X | A. ORIGINAL <i>(Complete Date In All Cases)</i> | | Date (YYMMDD) 98/10/19 | | |
| B. SUBCONTRACT NUMBER | | | B. REVISED <i>(Supersedes all previous specs)</i> | Revision No. | Date (YYMMDD) | | |
| X | C. SOLICITATION OR OTHER NUMBER 1-039-GH.0981 | Due Date (YYMMDD) | C. FINAL <i>(Complete Item 5 In All Cases)</i> | | Date (YYMMDD) | | |
| 4. IS THIS A FOLLOW-ON CONTRACT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO. If Yes, complete the following: Classified material received or generated under _____ <i>(Preceding Contract Number)</i> is transferred to this follow-on contract. | | | | | | | |
| 5. IS THIS A FINAL DD FORM 254? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO. If Yes, complete the following: In response to the contractor's request dated _____ retention of the classified material is authorized for the period _____ | | | | | | | |
| 6. CONTRACTOR <i>(Include Commercial and Government Entity (CAGE) Code)</i> | | | | | | | |
| A. Name, Address, And Zip Code TBD | | B. Cage Code TBD | C. Cognizant Security Office <i>(Name, Address, And Zip Code)</i> DEFENSE INVESTIGATIVE SERVICES DIRECTOR OF INDUSTRIAL SECURITY 2461 EISENHOWER AVENUE ALEXANDRIA VA 22331-1211 | | | | |
| 7. SUBCONTRACTOR | | | | | | | |
| A. Name, Address, And Zip Code N/A | | B. Cage Code N/A | C. Cognizant Security Office <i>(Name, Address, And Zip Code)</i> N/A | | | | |
| 8. ACTUAL PERFORMANCE | | | | | | | |
| A. Location N/A | | B. Cage Code N/A | C. Cognizant Security Office <i>(Name, Address, And Zip Code)</i> N/A | | | | |
| 9. GENERAL IDENTIFICATION OF THIS PROCUREMENT RESEARCH ENGINEERING OPERATIONS SERVICES | | | | | | | |
| 10. CONTRACTOR WILL REQUIRE ACCESS TO: | | YES | NO | 11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL: | | YES | NO |
| A. Communications Security (Comsec) Information | | | X | A. Have Access To Classified Information Only At Another Contractor's Facility Or A Government Activity | | X | |
| B. Restricted Data | | | X | B. Receive Classified Documents Only | | | X |
| C. Critical Nuclear Weapon Design Information | | | X | C. Receive And Generate Classified Material | | | X |
| D. Formerly Restricted Data | | | X | D. Fabricate, Modify, Or Store Classified Hardware | | | X |
| E. Intelligence Information | | | | E. Perform Services Only | | X | |
| (1) Sensitive Compartmented Information (Sci) | | | X | F. Have Access To U.S. Classified Information Outside The U.S., Puerto Rico, U.S. Possessions And Trust Territories | | | X |
| (2) Non-Sci | | | X | G. Be Authorized To Use The Services Of Defense Technical Information Center (Dtic) Or Other Secondary Distribution Center | | | X |
| F. Special Access Information | | | X | H. Require A Comsec Account | | | X |
| G. Nato Information | | | X | I. Have Tempest Requirements | | | X |
| H. Foreign Government Information | | | X | J. Have Operations Security (Opsec) Requirements | | | X |
| I. Limited Dissemination Information | | | X | K. Be Authorized To Use The Defense Courier Service | | | X |
| J. For Official Use Only Information | | | X | L. Other <i>(Specify)</i> | | | |
| K. Other <i>(Specify)</i> N/A | | | | | | | |

12. PUBLIC RELEASE. Any information (*classified or unclassified*) pertaining to this contract shall not be released for public dissemination except as provided by the Industrial Security Manual unless it has been approved for public release by appropriate U.S. Government authority. Proposed public releases shall be submitted for approval prior to release

Direct Through (*Specify*)

**“NASA LANGLEY RESEARCH CENTER, M/S 126, HAMPTON, VA 23681-2199”
ATTN: TODD LACKS @ 757-864-2477**

to the Directorate for Freedom of Information and Security Review, Office of the Assistant Secretary of Defense (Public Affairs)* for review.
*In the case of non-DoD User Agencies, requests for disclosure shall be submitted to that agency.

13. SECURITY GUIDANCE. The security classification guidance needed for this classified effort is identified below. If any difficulty is encountered in applying this guidance or if any other contributing factor indicates a need for changes in this guidance, the contractor is authorized and encouraged to provide recommended changes; to challenge the guidance or the classification assigned to any information or material furnished or generated under this contract; and to submit any questions for interpretation of this guidance to the official identified below. Pending final decision, the information involved shall be handled and protected at the highest level of classification assigned or recommended. (*Fill in as appropriate for the classified effort. Attach, or forward under separate correspondence, any documents/guides/extracts referenced herein. Add additional pages as needed to provide complete guidance.*)

ALL WORK ON THIS CONTRACT WILL BE PERFORMED AT GOVERNMENT FACILITIES WHERE CLASSIFICATION GUIDANCE WILL BE PROVIDED AS NECESSARY.

THE CONTRACTOR WILL BE INVOLVED WITH ONGOING RESEARCH AND DEVELOPMENT PROGRAMS THAT WILL REQUIRE INDIVIDUALS, DESIGNATED BY GOVERNMENT, TO HAVE A SECRET SECURITY CLEARANCE.

14. ADDITIONAL SECURITY REQUIREMENTS. Requirements, in addition to ISM requirements, are established for this contract. (*If Yes, identify the pertinent contractual clauses in the contract document itself, or provide an appropriate statement which identifies the additional requirements. Provide a copy of the requirements to the cognizant security office. Use Item 13 if additional space is needed.*)

Yes No

15. INSPECTIONS. Elements of this contract are outside the inspection responsibility of the cognizant security office. (*If Yes, explain and identify specific areas or elements carved out and the activity responsible for inspections. Use Item 13 if additional space is needed.*)

Yes No

16. CERTIFICATION AND SIGNATURE. Security requirements stated herein are complete and adequate for safeguarding the classified information to be released or generated under this classified effort. All questions shall be referred to the official named below.

| | | |
|--|---|--|
| a. TYPED NAME OF CERTIFYING OFFICIAL Sam A. Harvey | b. TITLE Program Security Officer | c. TELEPHONE (<i>Include Area Code</i>) 757-864-6507 |
|--|---|--|

d. ADDRESS (*Include Zip Code*)
**NASA LANGLEY RESEARCH CENTER
M/S 411
HAMPTON, VA 23681-2199**

17. REQUIRED DISTRIBUTION

- | | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | A. Contractor |
| <input type="checkbox"/> | B. Subcontractor |
| <input checked="" type="checkbox"/> | C. Cognizant Security Office For Prime And Subcontractor |
| <input type="checkbox"/> | D. U.S. Activity Responsible For Overseas Security Administration |
| <input checked="" type="checkbox"/> | E. Administrative Contracting Officer |
| <input type="checkbox"/> | F. Others As Necessary |

e. SIGNATURE

EXHIBIT B
CONTRACT DOCUMENTATION REQUIREMENTS

EXHIBIT B - CONTRACT DOCUMENTATION REQUIREMENTS

I. DOCUMENTATION PREPARATION/SUBMISSION INSTRUCTIONS

A. Monthly Progress Report—The Contractor shall submit monthly progress reports describing progress of the program to date, noting all technical areas in which effort is being directed and indicating the status of work within these areas. Reports shall be in narrative form, brief and informal in content. These reports shall include:

1. A narrative statement of work accomplished during the report period.
2. A statement of current and potential problem areas and proposed corrective action.
3. For each Contract Line Item (CLIN), the direct labor-hours and total cost expended during the report period as well as the cumulative direct labor-hours and total cost expended to date for each NTF effort initiated through a TTR and the projected direct labor-hours and total cost to be expended to completion of the TTR. Overtime hours shall be listed separately for each CLIN.

The monthly progress report shall be submitted within 15 days after the end of each calendar month.

B. Operations Procedures Plan—The Contractor shall submit an operations procedures plan to the Contracting Officer's Technical Representative (COTR) for approval within fifteen (15) calendar days after the effective date of the contract. The objective of the plan is to ensure that the research facilities are operated safely, reliably, efficiently, and without preventable interruption during research periods. The initial plan shall be prepared using existing procedures, standards, and schedule documentation; with the existing documentation updated as necessary. The approved plan shall be effective as of the commencement date of plant operations under this contract. The plan shall be updated as required during the contract performance by submission of revised pages for the approval of the COTR. Overtime hours shall be listed separately for each CLIN.

As a minimum, the operations procedures plan shall include:

1. The systems' operating instructions including a detailed description, in correct sequence, of the observations and adjustments to be made, the minimum frequency of the observations and adjustments, and who shall perform them.
2. The plant equipment-operating schedule.
3. The systems maintenance and inspection plan.
4. Emergency operational procedures during system disruptions.
5. Safety and accident procedures.
6. Pressure vessel inspection and certification schedule.

C. Monthly Power Report—The Contractor shall submit monthly power reports that includes the following information: meter read, current reading, last month's reading, multiplier, Kilowatt hr used, job order, and run times for the following facilities: 16 ft. Transonic Tunnel, NTF, ARS, T.D.T., Unitary Tunnel, 14 X 22 Tunnel, and 31-Inch Mach 10 Tunnel. The total monthly power used and total monthly run time shall also be included in this report.

D. Financial Management Reports—The Contractor shall comply with the Section I clause of this contract entitled "NASA Contractor Financial Management Reporting" by monthly submission of NASA Form 533M. The form shall be prepared and submitted in accordance with the instructions set forth on the reverse side of the form and NASA Policy and Guidelines (NPG) 9501.2C, "NASA Contractor Financial Management Reportings," as further definitized below.

1. Due not later than the 10th operating day following the close of the Contractor's accounting period being reported.

2. Columns 7.b. and d. shall be completed using the approved time-phased financial baseline plan (Reference Paragraph F below).

3. Columns 8.a. and b. shall be completed using estimates (forecasts) for the succeeding two months.

4. Each 533M shall include a narrative explanation for variances exceeding 15 percent between planned hours and dollars and actual hours and dollars for each reporting category.

5. The Contractor shall submit separate 533M's for each of the following:

a. Summary of entire contract effort.

b. CLIN 1 - Fluid Systems Operations and Routine Maintenance and Corrective Repairs

c. CLIN 2 - Drive Systems Operations and Power Dispatching, and Routine Maintenance and Corrective Repairs

d. CLIN 3 - NTF Support and Routine Maintenance and Corrective Repairs

6. Minimum reporting categories:

TBD

E. Quarterly Financial Management Report—The Contractor shall submit a quarterly financial report detailed by categories specified in Paragraph A above on NASA Form 533Q at times and in accordance with the instructions contained on the reverse side of the form. The initial 533Q shall be submitted within 10 operating days after award of the contract.

F. Financial Baseline Plan—A time-phased financial baseline plan, detailing by month how you plan to incur costs for the period, shall be submitted for the first 12-month interval of the total five year contract period. Financial baseline plans for each of the remaining 12-month intervals shall be submitted within 10 days of the anniversary of the effective date of this contract. This plan shall include the periods by the cost categories specified in Paragraph D.6 above. The total estimated cost reflected in the baseline plans must equal the contract values for the total contract period. No overrun costs will be included in the baseline plan.

G. Safety and Health Plan—Within 30 calendar days after notification of selection, the Contractor shall submit a detailed safety and health plan showing how the Contractor intends to protect the life, health, and well being of NASA and Contractor employees as well as property and equipment. This plan, as approved by the Contracting Officer, should contain, as a minimum the following:

1. Points of Contact and Responsibility—Organizational flow chart and description of responsibilities of each employee in your organization for safety.

2. Employee Safety Training, Certification and Programs—Detailed information on type of training required, parties responsible for certification, and outline of applicable regulations. Detail company programs which emphasize personal safety and motivate employees to be safety conscious.

3. LaRC Safety Policies/Procedures—Recognition of applicable LaRC safety policies and procedures such as Langley Handbook 1710.10, LaRC Red Tag System.

4. Accident Investigation and Reporting—Procedures for investigating and reporting accidents/incidents including immediate notification to the NASA LaRC Safety Manager of all injuries and damage to equipment or facilities.

5. Hazardous Operations--

(a) Description of hazardous operations involved in contract performance.

(b) Plans for apprising employees of all hazards to which they may be exposed.

(c) Proper conditions and precautions for safe use and exposure to hazardous operations. Include recognition of LHB 1710.12, Potentially Hazardous Materials.

6. People with Disabilities—In accordance with the Americans with Disabilities Act, the plans should specify that prior to assigning a person with disabilities to this contract, the Contractor shall contact the Disability Program Manager at (804) 864-7718.

7. Other Safety Considerations—Any other safety considerations unique to your operation.

H. Quarterly Accident/Injury Report—The Contractor shall submit a Quarterly Accident/Injury Report within 10 operating days after the end of each quarter.

I. Conformable Wage Rate Agreement—Within 15 operating days after the effective date of the contract, the Contractor shall submit a report confirming conformable wage rate agreement as this subject is addressed in the Section I clause entitled "Service Contract Act of 1965," for those individuals employed by the Contractor who are covered by the Service Contract Act, but are not listed in Exhibit D.

J. Collective Bargaining Agreements—The Contractor shall provide the Contracting Officer with copies of any collective bargaining agreements, and amendments thereto, which arise during the course of the contract and which apply to Contractor employees assigned to the contract.

K. Subcontracting Reports—The Contractor shall submit Standard Form 294, Subcontracting Report for Individual Contracts, and Standard Form 295, Summary Subcontractor Report; in accordance with the instructions on the reverse of the forms.

In addition to the instructions on the reverse of the SF 295, the Contractor is required to comply with Clause 1852.219-75, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Reporting.

L. Federal Contractor Veterans Employment Report—In compliance with Clause 52.222-37, Employment Reports on Disabled Veterans and Veterans of the Vietnam Era, the

Contractor shall submit the Federal Contractor Veterans Employment Reports (VETS-100) as required by this clause.

M. Evidence of Insurance—The Contractor shall submit evidence of the insurance coverage, required by the NASA Clause 1852.228-75 in Section I entitled "Minimum Insurance Coverage" (i.e., a Certificate of Insurance or other confirmation), to the Contracting Officer prior to performing under this contract. In the event the Government exercises its options to extend the term of the contract, the Contractor shall also present such evidence to the Contracting Officer prior to commencement of performance under the extension.

N. Virginia and Local Sales Taxes—In accordance with Section H.13, you are required to submit a copy of the letter sent to the Virginia Tax Commission and a copy of the subsequent response.

O. Year 2000 Compliance Documentation—In accordance with the clause in H.7 the Contractor shall provide for the review and approval of the Contracting Officer the documentation that demonstrates Year 2000 compliance. This documentation shall be provided with the deliverable hardware/software identified in this contract.

P. Small Disadvantaged Business (SDB) Participation Report—The Contractor shall submit an SDB Participation Report in accordance with the Section I, Clause 52.219-25, Small Disadvantaged Business Program--Disadvantaged Status and Reporting. The Contractor shall report on the participation of SDB concerns using either Optional Form 312, Small Disadvantaged Business Participation Report, or the Contractor's own format providing the same information as the Optional Form 312. This report shall be submitted every 12 months during the contract period.

Q. Quality System Documents (ISO 9002)—The Contractor shall submit the following ISO-compliant documents in accordance with H.8 not later than nine months from the effective date of the contract:

Quality System Manual

Quality System Procedures—these procedures shall address: (1) contract and subcontract management, (2) customer requirement review and execution, (3) task management, including work order generation and processing, (4) document control, (5) handling of customer supplied product, (6) corrective and preventive action, and (7) training of employees.

II. DOCUMENT DISTRIBUTION REQUIREMENTS

A. Unless otherwise specified elsewhere in this contract, reports and other documentation shall be submitted F.O.B. destination as specified below, addressed as follows:

National Aeronautics and Space Administration
Langley Research Center
Attn: _____, Mail Stop _____
Contract NAS1-
Hampton, VA 23681-2199

B. The following letter codes designate the recipients of reports and other documentation which are required to be delivered prepaid to Langley Research Center by the Contractor:

- A--Contract Specialist, Mail Stop 126
- B--Contracting Officer Technical Representative, Mail Stop 235
- C--Cost Accounting, Mail Stop 135
- D--Safety Manager, Mail Stop 429
- E--Industry Relations Office, Mail Stop 144
- F--Programs and Resources Division, Mail Stop 104
- G--Small Business Specialist, Mail Stop 144
- H--LMS Project Office Manager, Mail Stop 438
- I--According to instructions on form

C. The following are the distribution requirements for reports and other documentation required with the numeral following the letter code specifying the number of copies to be provided:

| <u>DOCUMENT</u> | <u>LETTER CODE AND DISTRIBUTION</u> |
|--|-------------------------------------|
| Monthly Progress Report | A-1, B-3 |
| Operations Procedures Plan | A-1, B-3 |
| Monthly Power Report | A-1, B-3 |
| Financial Management Report (NASA Forms 533M and 533Q) | A-1, B-2, C-2, F-1 |
| Financial Baseline Plan | A-2, B-5 |
| Safety and Health Plan | A-1, B-1, D-1 |
| Quarterly Accident/Injury Report | A-1, B-1, D-1 |
| Conformable Wage Rate Agreement | A-1, B-1, E-1 |
| Collective Bargaining Agreement | A-1, B-1, E-1 |
| Subcontracting Report for Individual Contracts (Standard Form 294) | A-1, G-1 |
| Summary Subcontractor Report (Standard Form 295) | I |
| Federal Contractor Veterans Employment Report (VETS-100) | I |
| Virginia and Local Sales Tax Correspondence | A-1 |
| Year 2000 Compliance Report | A-1, B-1 |
| Small Disadvantaged Business (SDB) Participation Report | A-1, G-1 |

Quality System Manual

A-1, B-1, H-1

Quality System Procedures

A-1, B-1, H-1

D. When the Contract Administrator (A) is not designated above to receive a copy of a report or document, the Contractor shall furnish a copy of the report/document transmittal letter to the Contract Administrator. The Contractor shall also furnish a copy of the transmittal letter and a copy of each Financial Management Report to the delegated Administrative Contracting Officer of the cognizant DoD (or other agency) contract administrative services component.

EXHIBIT C
RESERVED

EXHIBIT D

REGISTER OF WAGE DETERMINATIONS AND FRINGE BENEFITS

EXHIBIT D

REGISTER OF WAGE DETERMINATIONS UNDER
THE SERVICE CONTRACT ACT
By direction of the Secretary of Labor

U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON, D.C. 20210
Wage Determination No.: 94-2544
Revision No.: 16
Date of Last Revision: 07/29/1998

William W. Gross Division of
Director Wage Determinations

State(s): North Carolina, Virginia

Area: NORTH CAROLINA COUNTIES OF CAMDEN, CHOWAN, CURRITUCK, GATES,
 PASQUOTANK, PERQUIMANS.
 VIRGINIA COUNTIES OF CHESAPEAKE, GLOUCESTER, HAMPTON, ISLE OF WIGHT,
 JAMES CITY, MATHEWS, NEWPORT NEWS, NORFOLK, POQUOSON, PORTSMOUTH,
 SOUTHAMPTON, SUFFOLK, SURRY, VIRGINIA BEACH, WILLIAMSBURG, YORK.

** Fringe Benefits Required For All Occupations Included In
This Wage Determination Follow The Occupational Listing **

OCCUPATION CODE AND TITLE**MINIMUM HOURLY WAGE****ADMINISTRATIVE SUPPORT AND CLERICAL:**

| | |
|--|---------|
| 01011 Accounting Clerk I | \$ 6.75 |
| 01012 Accounting Clerk II | \$ 8.52 |
| 01013 Accounting Clerk III | \$10.60 |
| 01014 Accounting Clerk IV | \$11.50 |
| 01030 Court Reporter | \$10.81 |
| 01050 Dispatcher, Motor Vehicle | \$ 9.23 |
| 01060 Document Preparation Clerk | \$ 9.29 |
| 01070 Messenger (Courier) | \$ 7.34 |
| 01090 Duplicating Machine Operator | \$ 9.29 |
| 01110 Film/Tape Librarian | \$ 9.28 |
| 01115 General Clerk I | \$ 7.34 |
| 01116 General Clerk II | \$ 9.03 |
| 01117 General Clerk III | \$11.23 |
| 01118 General Clerk IV | \$12.55 |
| 01120 Housing Referral Assistant | \$11.98 |
| 01131 Key Entry Operator I | \$ 7.78 |
| 01132 Key Entry Operator II | \$ 9.79 |
| 01191 Order Clerk I | \$ 7.40 |
| 01192 Order Clerk II | \$ 9.68 |
| 01261 Personnel Assistant (Employment) I | \$ 8.85 |
| 01262 Personnel Assistant (Employment) II | \$10.23 |
| 01263 Personnel Assistant (Employment) III | \$10.80 |
| 01264 Personnel Assistant (Employment) IV | \$12.38 |
| 01270 Production Control Clerk | \$11.98 |
| 01290 Rental Clerk | \$ 9.28 |
| 01300 Scheduler, Maintenance | \$ 9.28 |
| 01311 Secretary I | \$ 9.28 |
| 01312 Secretary II | \$10.80 |
| 01313 Secretary III | \$12.38 |
| 01314 Secretary IV | \$14.46 |

| | |
|---|---------|
| 01315 Secretary V | \$15.18 |
| 01320 Service Order Dispatcher | \$ 9.28 |
| 01341 Stenographer I | \$ 8.78 |
| 01342 Stenographer II | \$ 9.86 |
| 01400 Supply Technician | \$11.50 |
| 01420 Survey Worker(Interviewer) | \$10.80 |
| 01460 Switchboard Operator-Receptionist | \$ 8.08 |
| 01510 Test Examiner | \$10.80 |
| 01520 Test Proctor | \$10.80 |
| 01531 Travel Clerk I | \$ 7.25 |
| 01532 Travel Clerk II | \$ 7.74 |
| 01533 Travel Clerk III | \$ 8.32 |
| 01611 Word Processor I | \$10.00 |
| 01612 Word Processor II | \$11.27 |
| 01613 Word Processor III | \$12.62 |

AUTOMATIC DATA PROCESSING:

| | |
|---------------------------------------|---------|
| 03010 Computer Data Librarian | \$ 8.26 |
| 03041 Computer Operator I | \$ 9.25 |
| 03042 Computer Operator II | \$10.70 |
| 03043 Computer Operator III | \$13.25 |
| 03044 Computer Operator IV | \$15.34 |
| 03045 Computer Operator V | \$16.31 |
| 03071 Computer Programmer I 1/ | \$13.38 |
| 03072 Computer Programmer II 1/ | \$15.15 |
| 03073 Computer Programmer III 1/ | \$18.05 |
| 03074 Computer Programmer IV 1/ | \$21.52 |
| 03101 Computer Systems Analyst I 1/ | \$17.62 |
| 03102 Computer Systems Analyst II 1/ | \$20.28 |
| 03103 Computer Systems Analyst III 1/ | \$24.98 |
| 03160 Peripheral Equipment Operator | \$ 8.26 |

AUTOMOTIVE SERVICE:

| | |
|--|---------|
| 05005 Automobile Body Repairer, Fiberglass | \$16.22 |
| 05010 Automotive Glass Installer | \$14.79 |
| 05040 Automotive Worker | \$14.79 |
| 05070 Electrician, Automotive | \$15.49 |
| 05100 Mobile Equipment Servicer | \$13.37 |
| 05130 Motor Equipment Metal Mechanic | \$16.22 |
| 05160 Motor Equipment Metal Worker | \$14.79 |
| 05190 Motor Vehicle Mechanic | \$16.22 |
| 05220 Motor Vehicle Mechanic Helper | \$12.61 |
| 05250 Motor Vehicle Upholstery Worker | \$14.07 |
| 05280 Motor Vehicle Wrecker | \$14.79 |
| 05310 Painter, Automotive | \$15.49 |
| 05340 Radiator Repair Specialist | \$14.07 |
| 05370 Tire Repairer | \$13.37 |
| 05400 Transmission Repair Specialist | \$16.22 |

FOOD PREPARATION AND SERVICE:

| | |
|---------------|---------|
| 07010 Baker | \$ 8.68 |
| 07041 Cook I | \$ 7.85 |
| 07042 Cook II | \$ 8.68 |

| | |
|--|---------|
| 07070 Dishwasher | \$ 6.05 |
| 07100 Food Service Worker (Cafeteria Worker) | \$ 6.05 |
| 07130 Meat Cutter | \$ 8.68 |
| 07250 Waiter/Waitress | \$ 6.58 |

FURNITURE MAINTENANCE AND REPAIR:

| | |
|-----------------------------------|---------|
| 09010 Electrostatic Spray Painter | \$15.49 |
| 09040 Furniture Handler | \$11.21 |
| 09070 Furniture Refinisher | \$15.49 |
| 09100 Furniture Refinisher Helper | \$12.61 |
| 09110 Furniture Repairer, Minor | \$14.07 |
| 09130 Upholsterer | \$15.49 |

GENERAL SERVICES AND SUPPORT:

| | |
|------------------------------------|---------|
| 11030 Cleaner, Vehicles | \$ 6.05 |
| 11060 Elevator Operator | \$ 6.05 |
| 11090 Gardener | \$ 7.75 |
| 11121 Housekeeping Aide I | \$ 5.93 |
| 11122 Housekeeping Aide II | \$ 6.49 |
| 11150 Janitor | \$ 6.05 |
| 11210 Laborer, Grounds Maintenance | \$ 6.58 |
| 11240 Maid or Houseman | \$ 5.52 |
| 11270 Pest Controller | \$ 8.25 |
| 11300 Refuse Collector | \$ 6.05 |
| 11330 Tractor Operator | \$ 7.38 |
| 11360 Window Cleaner | \$ 6.58 |

HEALTH:

| | |
|---|---------|
| 12020 Dental Assistant | \$10.26 |
| 12040 Emergency Medical Technician/ Paramedic Ambulance Driver | \$10.26 |
| 12070 Licensed Practical Nurse I | \$ 8.17 |
| 12071 Licensed Practical Nurse II | \$ 9.17 |
| 12072 Licensed Practical Nurse III | \$10.26 |
| 12100 Medical Assistant | \$ 9.17 |
| 12130 Medical Laboratory Technician | \$ 9.17 |
| 12160 Medical Record Clerk | \$ 9.17 |
| 12190 Medical Record Technician | \$12.71 |
| 12221 Nursing Assistant I | \$ 6.66 |
| 12222 Nursing Assistant II | \$ 7.49 |
| 12223 Nursing Assistant III | \$ 8.17 |
| 12224 Nursing Assistant IV | \$ 9.17 |
| 12250 Pharmacy Technician | \$11.44 |
| 12280 Phlebotomist | \$ 9.17 |
| 12311 Registered Nurse I | \$12.71 |
| 12312 Registered Nurse II | \$15.55 |
| 12313 Registered Nurse II, Specialist | \$15.55 |
| 12314 Registered Nurse III | \$18.82 |
| 12315 Registered Nurse III, Anesthetist | \$18.82 |
| 12316 Registered Nurse IV | \$22.55 |

INFORMATION AND ARTS:

| | |
|-------------------------------|---------|
| 13002 Audiovisual Librarian | \$11.96 |
| 13011 Exhibits Specialist I | \$15.02 |
| 13012 Exhibits Specialist II | \$18.25 |
| 13013 Exhibits Specialist III | \$20.27 |
| 13041 Illustrator I | \$15.02 |
| 13042 Illustrator II | \$18.25 |
| 13043 Illustrator III | \$20.27 |
| 13047 Librarian | \$13.75 |
| 13050 Library Technician | \$11.02 |
| 13071 Photographer I | \$11.33 |
| 13072 Photographer II | \$15.02 |
| 13073 Photographer III | \$18.25 |
| 13074 Photographer IV | \$20.27 |
| 13075 Photographer V | \$24.53 |

LAUNDRY, DRY CLEANING, PRESSING:

| | |
|--|---------|
| 15010 Assembler | \$ 5.79 |
| 15030 Counter Attendant | \$ 5.79 |
| 15040 Dry Cleaner | \$ 6.94 |
| 15070 Finisher, Flatwork, Machine | \$ 5.79 |
| 15090 Presser, Hand | \$ 5.79 |
| 15100 Presser, Machine, Dry Cleaning | \$ 5.79 |
| 15130 Presser, Machine, Shirts | \$ 5.79 |
| 15160 Presser, Machine, Wearing Apparel, Laundry | \$ 5.79 |
| 15190 Sewing Machine Operator | \$ 7.32 |
| 15220 Tailor | \$ 7.86 |
| 15250 Washer, Machine | \$ 6.19 |

MACHINE TOOL OPERATION AND REPAIR:

| | |
|--|---------|
| 19010 Machine-tool Operator (Toolroom) | \$15.49 |
| 19040 Tool and Die Maker | \$17.84 |

MATERIALS HANDLING AND PACKING:

| | |
|--|---------|
| 21010 Fuel Distribution System Operator | \$13.37 |
| 21020 Material Coordinator | \$12.19 |
| 21030 Material Expediter | \$12.19 |
| 21040 Material Handling Laborer | \$ 7.44 |
| 21050 Order Filler | \$ 8.46 |
| 21071 Forklift Operator | \$ 9.05 |
| 21080 Production Line Worker (Food Processing) | \$10.54 |
| 21100 Shipping/Receiving Clerk | \$ 8.85 |
| 21130 Shipping Packer | \$ 8.85 |
| 21140 Store Worker I | \$ 8.40 |
| 21150 Stock Clerk (Shelf Stocker, Store Worker II) | \$10.22 |
| 21210 Tools and Parts Attendant | \$10.95 |
| 21400 Warehouse Specialist | \$10.54 |

MECHANICS AND MAINTENANCE AND REPAIR:

| | |
|--------------------------------|---------|
| 23010 Aircraft Mechanic | \$16.22 |
| 23040 Aircraft Mechanic Helper | \$12.61 |

| | |
|--|---------|
| 23050 Aircraft Quality Control Inspector | \$16.94 |
| 23060 Aircraft Servicer | \$14.07 |
| 23070 Aircraft Worker | \$14.79 |
| 23100 Appliance Mechanic | \$15.49 |
| 23120 Bicycle Repairer | \$13.37 |
| 23125 Cable Splicer | \$16.22 |
| 23130 Carpenter, Maintenance | \$15.49 |
| 23140 Carpet Layer | \$14.79 |
| 23160 Electrician, Maintenance | \$16.22 |
| 23181 Electronics Technician, Maintenance I | \$13.99 |
| 23182 Electronics Technician, Maintenance II | \$14.31 |
| 23183 Electronics Technician, Maintenance III | \$15.33 |
| 23260 Fabric Worker | \$14.07 |
| 23290 Fire Alarm System Mechanic | \$16.22 |
| 23310 Fire Extinguisher Repairer | \$13.37 |
| 23340 Fuel Distribution System Mechanic | \$16.22 |
| 23370 General Maintenance Worker | \$14.79 |
| 23400 Heating, Refrigeration and Air Conditioning Mechanic | \$16.22 |
| 23430 Heavy Equipment Mechanic | \$16.22 |
| 23440 Heavy Equipment Operator | \$16.22 |
| 23460 Instrument Mechanic | \$16.22 |
| 23470 Laborer | \$ 9.68 |
| 23500 Locksmith | \$15.49 |
| 23530 Machinery Maintenance Mechanic | \$16.18 |
| 23550 Machinist, Maintenance | \$16.22 |
| 23580 Maintenance Trades Helper | \$12.61 |
| 23640 Millwright | \$16.22 |
| 23700 Office Appliance Repairer | \$15.49 |
| 23740 Painter, Aircraft | \$15.49 |
| 23760 Painter, Maintenance | \$15.49 |
| 23790 Pipefitter, Maintenance | \$16.22 |
| 23800 Plumber, Maintenance | \$15.49 |
| 23820 Pneudraulic Systems Mechanic | \$16.22 |
| 23850 Rigger | \$16.22 |
| 23870 Scale Mechanic | \$14.79 |
| 23890 Sheet-metal Worker, Maintenance | \$16.22 |
| 23910 Small Engine Mechanic | \$14.79 |
| 23930 Telecommunications Mechanic I | \$16.22 |
| 23940 Telecommunications Mechanic II | \$16.94 |
| 23950 Telephone Lineman | \$16.22 |
| 23960 Welder, Combination, Maintenance | \$16.22 |
| 23965 Well Driller | \$16.22 |
| 23970 Woodcraft Worker | \$16.22 |
| 23980 Woodworker | \$13.37 |

PERSONAL NEEDS:

| | |
|-------------------------------|---------|
| 24570 Child Care Attendant | \$ 6.34 |
| 24580 Child Care Center Clerk | \$ 7.91 |
| 24600 Chore Aide | \$ 5.15 |
| 24630 Homemaker | \$ 8.33 |

PLANT AND SYSTEM OPERATION:

| | |
|-----------------------------|---------|
| 25010 Boiler Tender | \$16.22 |
| 25040 Sewage Plant Operator | \$15.49 |

| | |
|--------------------------------------|---------|
| 25070 Stationary Engineer | \$16.22 |
| 25190 Ventilation Equipment Tender | \$12.61 |
| 25210 Water Treatment Plant Operator | \$15.49 |

PROTECTIVE SERVICE:

| | |
|------------------------------|---------|
| 27004 Alarm Monitor | \$ 7.21 |
| 27006 Corrections Officer | \$11.47 |
| 27010 Court Security Officer | \$11.91 |
| 27040 Detention Officer | \$11.47 |
| 27070 Firefighter | \$11.47 |
| 27101 Guard I | \$ 6.03 |
| 27102 Guard II | \$ 7.21 |
| 27130 Police Officer | \$14.25 |

STEVEDORING/LONGSHOREMEN SERVICE OCCUPATIONS:

| | |
|--------------------------|---------|
| 28010 Blocker and Bracer | \$24.47 |
| 28020 Hatch Tender | \$16.87 |
| 28030 Line Handler | \$18.59 |
| 28040 Stevedore I | \$11.80 |
| 28050 Stevedore II | \$12.96 |

TECHNICAL:

| | |
|---|---------|
| 29010 Air Traffic Control 2/Specialist, Center | \$23.96 |
| 29011 Air Traffic Control 2/Specialist, Station | \$16.53 |
| 29012 Air Traffic Control 2/Specialist, Terminal | \$18.20 |
| 29023 Archeological Technician I | \$11.43 |
| 29024 Archeological Technician II | \$12.85 |
| 29025 Archeological Technician III | \$15.87 |
| 29030 Cartographic Technician | \$15.87 |
| 29035 Computer Based Training Specialist/Instructor | \$17.62 |
| 29040 Civil Engineering Technician | \$15.87 |
| 29061 Drafter I | \$10.07 |
| 29062 Drafter II | \$11.33 |
| 29063 Drafter III | \$14.24 |
| 29064 Drafter IV | \$17.30 |
| 29081 Engineering Technician I | \$11.50 |
| 29082 Engineering Technician II | \$12.30 |
| 29083 Engineering Technician III | \$15.15 |
| 29084 Engineering Technician IV | \$18.35 |
| 29085 Engineering Technician V | \$21.43 |
| 29086 Engineering Technician VI | \$26.48 |
| 29090 Environmental Technician | \$15.87 |
| 29100 Flight Simulator Instructor (Pilot) | \$20.28 |
| 29150 Graphic Artist | \$17.62 |
| 29160 Instructor | \$15.23 |
| 29210 Laboratory Technician | \$11.83 |
| 29240 Mathematical Technician | \$15.87 |
| 29361 Paralegal/Legal Assistant I | \$10.80 |
| 29362 Paralegal/Legal Assistant II | \$13.12 |
| 29363 Paralegal/Legal Assistant III | \$16.05 |
| 29364 Paralegal/Legal Assistant IV | \$19.42 |
| 29390 Photooptics Technician | \$15.87 |
| 29480 Technical Writer | \$15.02 |

| | |
|--|---------|
| 29491 Unexploded Ordinance Technician I | \$15.55 |
| 29492 Unexploded Ordinance Technician II | \$18.82 |
| 29493 Unexploded Ordinance Technician III | \$22.85 |
| 29494 Unexploded Safety Escort | \$15.55 |
| 29495 Unexploded Sweep Personnel | \$15.55 |
| 29620 Weather Observer, Senior 3/ | \$12.80 |
| 29621 Weather Observer, Combined 3/Upper Air and Surface Programs | \$11.83 |
| 29622 Weather Observer, Upper Air 3/ | \$11.83 |

TRANSPORTATION/MOBILE EQUIPMENT OPERATION:

| | |
|------------------------------------|---------|
| 31030 Bus Driver | \$ 9.42 |
| 31260 Parking and Lot Attendant | \$ 6.98 |
| 31290 Shuttle Bus Driver | \$ 9.01 |
| 31300 Taxi Driver | \$ 8.50 |
| 31361 Truckdriver, Light Truck | \$ 9.01 |
| 31362 Truckdriver, Medium Truck | \$ 9.42 |
| 31363 Truckdriver, Heavy Truck | \$10.50 |
| 36364 Truckdriver, Tractor-Trailer | \$10.50 |

MISCELLANEOUS :

| | |
|--|---------|
| 99020 Animal Caretaker | \$ 7.00 |
| 99030 Cashier | \$ 5.93 |
| 99041 Carnival Equipment Operator | \$ 7.38 |
| 99042 Carnival Equipment Repairer | \$ 7.75 |
| 99043 Carnival Worker | \$ 6.05 |
| 99050 Desk Clerk | \$ 7.00 |
| 99095 Embalmer | \$17.63 |
| 99300 Lifeguard | \$ 5.36 |
| 99310 Mortician | \$17.63 |
| 99350 Park Attendant (Aide) | \$ 6.73 |
| 99400 Photofinishing Worker (Photo Lab / Dark Room Technician) | \$ 6.01 |
| 99500 Recreation Specialist | \$13.04 |
| 99510 Recycling Worker | \$ 7.41 |
| 99610 Sales Clerk | \$ 5.36 |
| 99620 School Crossing Guard (Crosswalk Attendant) | \$ 6.05 |
| 99630 Sports Official | \$ 5.36 |
| 99658 Survey Party Chief | \$ 7.85 |
| 99659 Surveying Technician | \$ 7.50 |
| 99660 Surveying Aide | \$ 5.15 |
| 99690 Swimming Pool Operator | \$ 8.68 |
| 99720 Vending Machine Attendant | \$ 7.41 |
| 99730 Vending Machine Repairer | \$ 8.68 |
| 99740 Vending Machine Repairer Helper | \$ 7.41 |

**** Fringe Benefits Required For All Occupations Included In This Wage Determination ****

HEALTH & WELFARE: Life, accident, and health insurance plans, sick leave, pension plans, civic and personal leave, severance pay, and savings and thrift plans. Minimum employer contributions costing an

average of \$2.56 per hour computed on the basis of all hours worked by service employees employed on the contract.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 8 years; 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with predecessor contractors in the performance of similar work at the same Federal facility. (See 29 CFR. 4.173)

HOLIDAYS: Minimum of ten paid holidays per year: New Year's Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

- 1 Does not apply to employees employed in a bona fide executive, administrative, or professional capacity as defined and delineated in 29 CFR 541. (See 29 CFR 4.156)
- 2 APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. at the rate of basic pay plus a night pay differential amounting to 10 percent of the rate of basic pay.
- 3 WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as a part of a regular tour of duty, you will earn a NIGHT DIFFERENTIAL and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employee (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

**** UNIFORM ALLOWANCE ****

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of \$4.25 per week (or \$.85 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

**** NOTES APPLYING TO THIS WAGE DETERMINATION ****

Source of Occupational Titles and Descriptions:

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by the Second Supplement, dated August 1995, unless otherwise indicated. This publication may be obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of specific job descriptions may also be obtained from the appropriate contracting officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE
{Standard Form 1444 (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. (See Section 4.6 (C)(vi)) When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

- 1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).
- 2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.
- 3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See Section 4.6(b)(2) of Regulations 29 CFR Part 4).
- 4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.
- 5) The contracting officer transmits the Wage and Hour decision to the contractor.
- 6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

EXHIBIT E
COLLECTIVE BARGAINING AGREEMENTS

COLLECTIVE BARGAINING AGREEMENT
BETWEEN
DIVERSIFIED TECHNOLOGY & SERVICES OF VIRGINIA, INC.
AND
DISTRICT LODGE 74
INTERNATIONAL ASSOCIATION OF MACHINISTS
AND AEROSPACE WORKERS
September 1, 1998 to October 31, 2000

TABLE OF CONTENTS

ARTICLE I
RECOGNITION

ARTICLE II
EMPLOYEE CONDUCT POLICY/PROGRESSIVE DISCIPLINE

ARTICLE III
NON-DISCRIMINATION

ARTICLE IV
MANAGEMENT RIGHTS

ARTICLE V
DUES CHECK-OFF

ARTICLE VI
HOURS OF WORK

ARTICLE VII
SENIORITY

ARTICLE VIII
GRIEVANCE AND ARBITRATION

ARTICLE IX
LEAVES OF ABSENCE

ARTICLE X
BULLETIN BOARD

ARTICLE XI
SAFETY, HEALTH AND SANITATION

ARTICLE XII
HOLIDAYS

ARTICLE XIII
ANNUAL LEAVE

ARTICLE XIV
SICK LEAVE

ARTICLE XV
NO STRIKE - NO LOCKOUT

ARTICLE XVI
UNION REPRESENTATION

ARTICLE XVII
UNIT WORK PROTECTION

ARTICLE XVIII
WAGES AND CLASSIFICATIONS

ARTICLE XIX
INVALIDITY

ARTICLE XX
401 (K)

ARTICLE XXI
HEALTH & WELFARE BENEFITS

ARTICLE XXII
GENERAL PROVISIONS

ARTICLE XXIII
SUPERSEDING EFFECT OF AGREEMENT

ARTICLE XXIV
DURATION

APPENDIX A

PREAMBLE

This Agreement is made and entered into as of the 1st day of September, 1998, by and between DIVERSIFIED TECHNOLOGY & SERVICES OF VIRGINIA, INC., its successors and assigns, hereinafter referred to as the "Company" or "Employer", and DISTRICT LODGE 74, INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS, AFL-CIO, its successors and assigns, hereinafter referred to as the "Union".

WITNESSETH:

It is the intent and purpose of the parties to this Agreement to promote and improve all industrial and economic relations between the Company and the employees covered by this Agreement, as set forth in the Agreement covering rates of pay, hours of work and conditions of employment to be observed.

ARTICLE I RECOGNITION

Section 1. The Company recognizes District Lodge 74, International Association of Machinists and Aerospace Workers, AFL-CIO, hereinafter collectively referred to as the "Union", its successors and assigns, as the sole and exclusive collective bargaining representative for all employees covered by this Agreement as certified by the National Labor Relations board in Case No. 5-RCA-8670.

Section 2. This Agreement shall cover all future shops and/or plants in the immediate Hampton or Newport News area (twenty-five mile radius) which the Company may operate during the term of this Agreement, or any existing plant, provided the work is previously performed by employees in the Bargaining Unit. The Union agrees to hold the Company harmless in the event of a jurisdictional dispute between any two or more unions in regard to this Section.

ARTICLE II EMPLOYEE CONDUCT POLICY/PROGRESSIVE DISCIPLINE

Section 1. Reasons for Discipline. The Company may discipline including suspension, probation and discharge for just cause, including failure of the employee to observe the rules and regulations of the Company or to perform quality work.

Section 2. Progressive Discipline. Ordinarily the Company will utilize the progressive discipline procedure outlined in Section 3 of this Article when it finds it appropriate to discipline an employee. Notwithstanding the fact that the Company prefers to utilize progressive discipline, it reserves the right to impose discipline (including suspension, probation or discharge even for the first offense) if in its reasonable judgment the severity of the offense warrants more severe discipline.

Section 3. Progressive Discipline Procedure. For violation of the Company rules or regulations or for failure to perform quality work the Company may resort to the following procedure:

- (a) First Violation: Oral warning.
- (b) Second Violation: Supervisor prepares a report citing infraction and employee receives copy with original going into Employee personnel file.
- (c) Third Violation: Suspension of work for up to and including five (5) working days.
- (d) Fourth Violation: If an employee receives a combination of three (3) offenses in eighteen (18) months or less he is subject to up to and including discharge and not eligible for rehire.

Any incident of discipline that occurred more than eighteen (18) months before the violation in question will not be considered in the progressive discipline process.

Section 4. Rules and Regulations: The Company shall provide each employee and the Union a copy of all rules and regulations. Any amendments or changes to the rules and regulations will be distributed to the employees and the Union five (5) days in advance of their implementation. The Union may request within ten (10) days of receipt of any proposed changes that the Company meet and discuss the impact of such rules provided that the promise to meet and confer will not be interpreted as the interference with the Company's right to promulgate reasonable rules and regulations so long as such rules and regulations do not conflict with the express provisions of this contract.

ARTICLE III NON-DISCRIMINATION

Section 1. No Discrimination. There shall be no discrimination against any employee because of race, religion, national origin, sex, age, or Union membership by either the Company or the Union. The Company and the Union agree to comply with all laws relating to the non-discrimination of and the accommodation of the disabled and this Agreement shall be so interpreted.

Section 2. Pronouns. Wherever the pronouns he, him, or his appear in this Agreement, it is agreed that any such reference shall have equal application to employees irrespective of sex and in no way represents sexual discrimination.

ARTICLE IV MANAGEMENT RIGHTS

Section 1. The management of the project and the direction of the work force, including the right to plan, direct and control its operation; to determine the means, methods, processes, materials, and schedules of operations; to determine the location of its business; the right to contract and subcontract for materials, supplies, services and equipment; to determine the continuance of its operation; or operating departments; to establish and require employees to observe its rules and regulations; to hire, lay off or relieve employees from duties; and to suspend, demote, discipline and discharge employees for just cause, are the rights solely of the Employer.

The foregoing enumeration of Employer's rights shall not be deemed to exclude other rights of the Employer not specifically set forth. The Employer, therefore, retains all rights not otherwise specifically limited by this Agreement.

Section 2. The Company agrees not to subcontract Bargaining Unit work that will directly cause the termination of Bargaining Unit employees unless directed to do so by its customer, the verification of which will be furnished to the Union on request. The Company agrees that Union has the right to represent the employee on all matters concerning conditions of work, wages and other applicable matters as mentioned in the Agreement.

Section 3. Government Directive/Drug Testing. The Company shall have the right to establish rules, procedures and regulations to comply with any government directive, including but not limited to, establishing a drug free work place and work force. The Company may also implement a program whereby employees would be tested for drugs (including alcohol) and the failure of the employee to take the test shall be grounds for discipline.

ARTICLE V DUES CHECK-OFF

Section 1. The Company agrees, subject to the provision hereof, to deduct Union dues, initiation fees and/or other deductions from the wages of the employees so authorizing the same in writing.

Section 2. The Union shall send a copy to the Company of the writing of those employees who have made such assignments, together with a statement of the initiation fees, dues and other deductions to be deducted from the pay of such member and the Company agrees to deduct in the amount so

certified in respect to each such member from the first pay check of each month of such member following the receipt by the Company of such certification or statement monthly and shall make such remittance to the Union in one lump sum within ten (10) days after said deduction is made.

Section 3. The Union agrees to indemnify and hold the Company harmless against any and all claims, demands, suits, costs, and/or other forms of liability and expenses that shall arise out of or because of action taken by the Company for the purpose of complying with any provisions of this Article or in reliance upon any list, notice or assignment furnished by the Union under any such provisions.

Section 4. The Union agrees to furnish the Company a copy of the authorization duly signed by each employee authorizing the deduction and properly witnessed. The check-off authorization shall read as follows:

DUES CHECK-OFF

I hereby voluntarily assign the District Lodge 74, International Association of Machinists and Aerospace Workers, or in lieu thereof, a subordinate Local Lodge designated by District Lodge 74, from any wages earned, or to be earned by me, initiation fees and the amount of my regular monthly membership dues in said Union.

I authorize and direct my employer to deduct said monthly membership dues from my pay each month, and to remit the same to the order of the officer or official designated by the Union, said authorization and direction to be subject to all the terms and conditions contained in the Collective Bargaining Agreement in existence between my employer and the Union.

This check-off authorization shall remain in effect until revoked by me and shall be irrevocable for a period of one (1) year from the date of execution of such authorization or until the termination of this Agreement between my employer and the Union.

This authorization shall be automatically renewed and irrevocable for one successive period of one (1) year, unless written notice of cancellation is given by me to the Company and the Union, said notice to be forwarded by registered or certified U.S. Mail, not more than seventy-five (75) days and not less than sixty (60) days prior to the expiration of each term of one (1) year, or prior to the termination of the Collective Bargaining Agreement between my employer and the Union, whichever occurs sooner.

This authorization is voluntarily made in order to pay my fair share of the Union's cost of representing me for the purpose of Collective Bargaining and this authorization is not conditioned on my present or future membership in the Union.

ARTICLE VI HOURS OF WORK

Section 1. Except as otherwise provided for in this Agreement, the normal work day shall consist of eight (8) hours per day and the normal work week shall consist of forty (40) hours of work per week, Monday through Friday. This provision shall not be construed as guaranteeing any employee a specific number of hours of work per day or per week.

Section 2. Employees assigned to shift work shall be permitted to eat while in a duty status. Should employees work through the normal lunch period due to work requirements, lunch shall be taken at the first available opportunity (half hour unpaid). Should the company (Supervisor) require employees to work through the normal lunch period, the employees may be excused at the end of this shift early.

Section 3. The hours of work for employees in the Steam Plant assigned solely to the first shift shall normally be 7:00 a.m. to 3:30 p.m. with a thirty (30) minute nonpaid lunch period. Employees who are required to work while eating shall have an eight hour shift.

Section 4. For employees assigned to shift work in the Steam Plant the schedule shall normally be as follows:

| | | |
|-----|--------------|--|
| (a) | First shift | 7:00 a.m. to 3:00 p.m. |
| (b) | Second shift | 3:00 p.m. to 11:00 p.m. |
| (c) | Third shift | 11:00 p.m. to 7:00 a.m. |
| (d) | Swing shift | 3:00 p.m. to 11:00 p.m. 11:00 p.m. to 7:00 a.m. 7:00 a.m. to 3:00 p.m. |

Each four (4) weeks employees in the Steam Plant assigned to shift work will be required to rotate.

Section 5. For employees assigned to work in the compressor Stations (east and West Areas) the second shift will be on a voluntary basis. If there are more volunteers than needed, the assignment will be by seniority. If there are not enough volunteers, the assignment will be made in a fair and impartial manner with the first assignment being made by inverse seniority.

For employees assigned to shift work in the Compressor Stations the schedule shall normally be as follows:

| | | |
|-----|----------------|---------------------------------------|
| (a) | First shift | 7:00 a.m. to 3:00 p.m. |
| (b) | Second shift | 3:00 p.m. to 11:00 p.m. |
| (c) | Third shift | 11:00 p.m. to 7:00 a.m. |
| (d) | Floating shift | Eight hour shift as research requires |

Section 6. It is recognized and agreed that the Company may assign employees to work overtime. The Company shall endeavor to give affected employees as much advance notice as possible of the overtime assignments. Such assignments are to be made in a fair and equitable manner, based upon the employee's classification. Nothing contained herein shall preclude the right of the Company to require a shift worker to work overtime when his relief does not show up. The Company agrees to keep records of all overtime assignments and to make such records available to the Union upon request. It is understood that the Company has the right to manage its work force and individual schedules to minimize overtime.

Section 7. Overtime paid at one and one-half (1.5) times the regular straight-time hourly rate shall be paid for all hours worked by an employee in excess of eight (8) hours per day or forty (40) hours per week. Overtime work performed on the employee's regularly scheduled sixth or seventh day shall be paid for at the rate of one and one-half (1.5) times the regular straight-time hourly rate. Vacation, holiday and sick leave time shall be considered time worked for the purpose of determining overtime.

Section 8. There shall be no duplication or pyramiding of overtime or premium pay under the provisions of this Agreement; any such hours compensable under two or more provisions of this Agreement shall be paid at higher premium rate of the two.

Section 9. In the event it is necessary to call out an employee to work, Employer agrees that such called out employee shall receive a minimum of four (4) hours of work or four (4) hours of pay at one and one-half (1.5) times the regular straight-time hourly rate. In addition, any employee called back to work after his regular shift hours shall be promptly excused upon completion of the job which he was called in to perform.

Section 10. In the event a permanent employee reports for work at his scheduled starting time and no work is available, the employee shall be entitled to receive four (4) hours show up time pay, to be paid at the appropriate hourly rate of pay.

Section 11. In the event NASA mandates a reduced work load or work force, then employees not scheduled to work will not be paid for such days unless the Company is reimbursed by NASA.

Section 12. The Company may request an employee or the employee may request the Company that he be allowed to work more than eight (8) hours in a day without overtime compensation. In lieu of overtime compensation pursuant to this Article VI, Section 7, the employee will be given an equal amount of time off in the pay period. (For example, if an employee works ten (10) hours on Monday, he may work six (6) hours on Thursday.) Agreeing to the requests hereunder is understood to be voluntary on the employee's part and the Company's part.

ARTICLE VII SENIORITY

Section 1. Seniority shall be defined as the length of continuous service, whether employed by the Company or its predecessor, from the employee's latest date of hire, and shall be recognized on a Bargaining Unit wide basis.

Section 2. The Company shall furnish the Union each six (6) months with an accurate seniority list of all employees in the Bargaining Unit. Such list is to include the name, classification, latest date of hire, wage rate, and home address of record of each employee.

Section 3. All employees shall be considered probationary employees for the first forty-five (45) working days of permanent employment and shall not, during such period, be entitled to any benefits of this Agreement, except paid holidays. Any decision of the Company to terminate or otherwise discipline a probationary employee shall be final and not subject to the Grievance and Arbitration provisions of this Agreement. Upon satisfactory completion of the probationary period, the employee shall become a permanent employee with seniority dating from the date of permanent hire. Relief employees will receive credit for all actual hours worked for the Company at the time the employee is permanently hired. This credit will not apply to leave accrual or any other financial benefit.

Section 4. Classification seniority shall mean the length of accumulated service within a classification.

Section 5. In effecting layoffs and recalls, classification seniority shall control where the relative skill and ability of the employees given the job requirements are the same or relatively equal.

Section 6. Seniority shall be canceled and the employee shall be considered terminated upon the happening of any of the following events:

- (a) An employee quits;
- (b) An employee is discharged;
- (c) An employee fails to return to work within five (5) days of notice of recall given by the Company by registered or certified mail;
- (d) An employee is absent for three (3) days without previously notifying the Company, except in cases of extenuating circumstances;
- (e) An employee overstays a leave of absence without notifying the Company, except in cases of extenuating circumstances;
- (f) An employee engaged in other employment during a leave of absence without obtaining prior permission of the Company;
- (g) An employee gives false reasons for obtaining a leave of absence;
- (h) Settlement has been made for total disability;
- (i) An employee has retired;

(j) An employee has been in layoff status or is absent because of sickness or injury or similar cause for more than twelve (12) months.

Section 7. The seniority of employees promoted or assigned to jobs outside of the Bargaining Unit shall be frozen at the level obtained at the time of such transfer or promotion. In the event such employee returns to the Bargaining Unit within one (1) year, he shall be entitled to whatever rights and privileges his accumulated seniority as of the time of promotion or transfer out of the Bargaining Unit would entitle him without prejudice.

Section 8. It is agreed that each employee shall be credited by classification seniority for the period he has been working in that classification with former contractors at NASA Langley. All employees entering a different or new classification after June 1, 1988 shall have their classification seniority started on the date of entry into such classification.

Section 9. The Union expressly recognizes the need for flexibility in the work force and agrees that an employee in one classification shall not be restricted from doing temporarily the work normally done by an employee in another classification. However, all such assignments shall be made in a fair and equitable manner.

In the event an employee temporarily works in a classification for which the normal rate of pay is higher than the rate of pay received by the employee in his normal classification, he shall receive the higher rate of pay. In the event an employee is assigned work temporarily in a classification lower than his normal classification, he shall receive his regular rate of pay.

Section 10. In making assignments to a permanent job vacancy or a new job, the Company shall give first preference to any currently qualified employees who apply for the position. A notice of any such vacancy or new job shall be posted on the bulletin board for a period of three (3) days (during such time vacancy shall be considered temporary). The Company, at the end of such time period shall consider those employees who have submitted a bid notice (the form and content of which the parties shall mutually agree upon) and consistent with the overall requirements of the Company as determined by the Company, shall select and assign the senior employee, if in its opinion the applicant is also qualified and suitable for the job.

Section 11. In the event the Company believes no properly suitable or qualified employee signs such a bid notice for a job opening, it is agreed and understood that the Company may hire a new employee for such job. Any employee who is awarded a job opening is expected to be qualified to perform the tasks of such job following initial break-in instructions and guidance from supervision.

Section 12. Employees assigned or transferred pursuant to this Article shall be given thirty (30) days in which to prove they are capable of performing the duties of the new job in a satisfactory manner. In the event such employees do not satisfactorily meet the requirements of the new job, they shall be returned to their prior position or its equivalent without prejudice. Any employee, upon request, shall be advised in the presence of his Union representative of the specific reasons for not meeting the requirements of the job and any disputes arising therefrom shall be subject to the grievance procedure.

Employees who are accepted on any bid job and are returned to their former job for failing to meet job requirements shall not be permitted to bid on any job for a period of six (6) months.

Section 13. When a reduction of working forces becomes necessary in the Company's judgment, employees shall be retained by the Company in accordance with the principles of Section 5, according to the number of employees the Company determines is necessary within each classification for the reduced operations contemplated by the Company. Recall of employees shall be accomplished by the same procedure in reverse.

Section 14. Any employee within a particular job classification who is affected by a layoff within his classification may bump, based only on Bargaining Unit seniority, any less senior employee in any like or lower rated classification, but only if qualified to perform the work within such classification.

ARTICLE VIII GRIEVANCE AND ARBITRATION

Section 1. It is the intent of this Article to establish means for prompt adjustment of working problems and personal grievances at the job level by a conference between the immediate Foreman and the employee involved, provided a Union representative has been given an opportunity to be present. If not resolved in this informal level, a formal grievance shall be filed and processed in accordance with the steps and time limits and mutually agreed upon extensions specified below. For the purpose of this Article, a formal grievance under this Agreement is defined as a written statement by the Union, company, an individual employee or group of employees (hereinafter called "Grievance") claiming a violation of the terms of this written Agreement. Such grievance, to be valid, must specify the Article and Section of the Agreement believed to be violated.

Section 2. Except for payroll adjustments, no grievance shall be filed or processed based on facts or events or omissions within the employees knowledge, which have occurred more than ten (10) working days before such grievance is filed. Both parties agree to exert an earnest effort to settle such grievances promptly through the following steps:

STEP 1. The employee involved shall first confer with the Project Manager or his designated representative in order to amicably settle the matter, provided a Union representative has been given an opportunity to be present. The Foreman must give his decision within five (5) working days.

STEP 2. Should the grievance not be satisfactorily settled by the discussion outlined in Step 1 above, the Union shall within five (5) working days submit the grievance in writing to the Vice President, Operations or his representative. Within ten (10) working days after receipt of the written grievance, the Vice President, Operations or his representative shall either fully satisfy the grievance or meet with the Shop Steward, Business representative or International Representative of the Union and employee, if applicable. The Vice President, Operations, or his representative will render a written decision within five (5) work days after such contact.

STEP 3. If the parties are still unable to settle the grievance, then either party may, within thirty (30) calendar days after a written decision has been given, request the Federal Mediation and Conciliation Service to submit a list of five (5) impartial arbitrators from which the Company and the Union shall choose one to decide the controversy by the Company first striking two names, and then the Union striking two (2) names, and the remaining name shall be chosen arbitrator. The arbitrator shall not have the authority to alter, amend or change the terms or provisions of this Agreement, and his decision shall be limited to the particular grievance in question. The arbitrator's decision shall be rendered in thirty (30) days and shall be final and binding on the parties.

Section 3. The Union and the Company shall equally share the fee of the impartial arbitrator, including any mutually agreed upon services relating to the arbitration proceedings. Either party shall be permitted to call employee witnesses at each and every step of the grievance procedure and no employee whose participation is reasonably necessary as a Union Representative or witness shall suffer any loss of earning as a result of so serving. The Company on demand will produce production, payroll, or other records for the purpose of substantiating the contentions or claims of the parties well in advance of the formal proceeding of the grievance procedure.

Section 4. All time limits prescribed herein may be extended by mutual agreement of the parties. Failure of the Company to respond within the time limits shall constitute a basis for escalating the grievance to the next step. Failure of the Union or employees to process the grievance to the next step within the time limits shall render the grievance invalid.

Section 5. In any case involving discharge or discipline imposed by the Company, back wages, if any are awarded, shall be limited to the amount of wages that employee would otherwise have earned less any unemployment compensation or substitute earnings during the period of discharge or suspension.

Section 6. Failure of the Company to implement the award of arbitrators within five (5) working days (if it is reasonably possible for the company to implement) after receipt shall be cause for a recognized work stoppage. No employee participating in such a work stoppage shall be discharged, disciplined, or otherwise subjected to any penalty for participation in such a work stoppage.

ARTICLE IX LEAVES OF ABSENCE

Section 1. When it is necessary for employees to leave their duty for the purpose of attending to their personal business, and provided reasonable notice has been given the Company, employees will be granted leaves of absence without pay, provided the absences do not unduly interfere with the efficient operation of the Company. Such leaves shall not exceed six (6) months but upon written request with Company approval may be extended for additional time. The Company shall be under no obligation to an employee on leave of absence, except to return to work in accordance with the employee's seniority. It is mutually agreed and understood that leaves will not be granted for the purpose of seeking different employment.

Section 2. An employee who is summoned for jury duty, and who actually responds to said summons, will be paid the difference between the amount of money he received for jury duty pay and what he actually would have earned had he worked for the Company during the time he was absent due to jury duty, computed at the employee's regular straight-time rate for either an eight (8) hour day or five days per week. It is understood and agreed that the Company has the right to require satisfactory proof that an employee actually served on the jury panel and the number of days served.

Employees on the first and second shifts will not be required to report for work on the day they are required to serve as a juror or appear as a witness. Third shift employees will not be required to report for work on any night prior to reporting for jury duty or appearing as a witness the following day where the workweek starts on Sunday night and on any night following where the workweek starts on Monday morning.

Section 3. In case of the death of a member of the immediate family of an employee, the employee shall be granted a maximum of three (3) consecutive workdays off with straight-time pay to attend the funeral and to tend to administrative details. It is understood that an employee must attend the funeral in order to qualify for funeral leave with pay. Verification may be required by the Company. Members of the immediate family shall be the spouse, children, step-children, parent, step-parents, father-in-law, mother-in-law, brothers, sisters, half-brothers, half-sisters, brothers-in-law, sisters-in-law, sons-in-law, daughters-in-law, grandparents, grandparents of spouse, grandchildren whether of natural relationship or legally adopted or under legal guardianship, of the employee.

Section 4.

(a) The Company agrees to observe all provisions of present law or laws hereafter enacted relating to its obligations to those of its employees who may hereafter leave the service of the Company to enter the Armed Services of the United States.

(b) Annual military leave, without pay, will be granted employees not to exceed eighteen (18) days.

Section 5. When it is necessary for employees to leave their duty for the purpose of attending to Union business other than organizational activities, and provided that reasonable notice has been given to the Company, employees will be granted leaves of absence without pay. Such leaves shall not exceed

thirty (30) days, but may be extended for additional time upon written request to the Company, if such further leave is feasible. In no event will Union business leaves be granted to more than two (2) employees during any one month. The Company shall be under no obligation to an employee on Union business leave except to return to work in accordance with the employee's seniority. All such leave requests are further subject to the Company's ability to adequately replace such employee on a temporary basis.

Section 6. An employee granted unpaid leave of absence shall accrue seniority while absent on such leave. All benefits (sick leave, vacation, paid insurance and hospitalization, etc.) shall be suspended during the period of unpaid leave of absence, unless the employee makes arrangements with the Company to keep these benefits in force at the employee's expense.

Section 7. Where the provisions of this Article are in conflict with the Family Medical Leave Act (FMLA), the provisions of the FMLA will control, but shall not be interpreted to be in addition to other time that might be available under this Article. For example, an employee who is on medical leave pursuant to the FMLA for twelve (12) weeks may extend up to an additional twelve (12) weeks pursuant to Section 1 in accordance with the requirements of Section 1.

ARTICLE X BULLETIN BOARD

The Company agrees to allow the union to share the Company bulletin board located in the work area where employees normally check in and out for the use of the Union for posting of matters relating to Union meetings and other Union matters of a non-controversial, non-political nature only. All such notices as posted by the Union shall be signed by an authorized Union representative.

ARTICLE XI SAFETY, HEALTH AND SANITATION

Section 1. Any protective devices or other safety equipment necessary to protect employees from injury will be provided by the Company without cost and shall be worn and/or utilized by the employees in the performance of their job tasks. In this connection, the Company will welcome suggestions from employees, or the Union, regarding the need for additional safety equipment.

Section 2. In the event an employee suffers an injury on the job in the course of his employment and is required to leave work to go to the doctor, he shall be paid for the balance of his shift on the day such injury occurs. If the employee is able to return to work after visiting the doctor, he shall do so and shall be compensated for the time spent at the doctor.

Section 3. The Company and the Union agree and recognize that employees may from time to time have meritorious suggestions for improvement of safety conditions in the Company's operations. Therefore, the Company and the Union encourage employees to reduce any such safety suggestion to writing and submit it to the Company for consideration. It is further recognized and agreed that the Company may from time to time schedule safety meetings and require attendance by employees. Attendance of employees at any such safety meeting which is scheduled with required attendance shall be compensated for the time actually spent incidental to such safety meeting at the employee's applicable rate of pay.

Section 4. Should a walk around safety inspection of the Company's premises be conducted pursuant to the provisions of the OSHA, one (1) representative, designated by the Union, shall have the right to accompany the inspection team during regular duty hours without loss of pay.

ARTICLE XII
HOLIDAYS

Section 1. The following holidays or day(s) observed as such shall be paid holidays under this Agreement.

| | |
|------------------|-------------------------------|
| New Year's Day | Thanksgiving Day |
| President's Day | Labor Day |
| Memorial Day | Christmas Day |
| Independence Day | Columbus Day |
| Veteran's Day | Martin Luther King's Birthday |

It is agreed that the phrase "or day(s) observed as such" means the day(s) on which the Government substantially reduces the normal activities at NASA Langley Research Center, the Center is in a "holiday or weekend mode" and the Government employees at NASA Langley Research Center celebrate the holiday.

On days which are not enumerated in paragraph one above, when because of special events or occasions, i.e., administrative holiday, inclement weather or other acts of God, situations restricting operations for short durations, the Government substantially reduces the normal activities at NASA Langley Research Center because of the special occasion or event, the following provisions apply:

Employees required to work will receive their normal straight-time pay. The number of employees required will be restricted to the number essential to maintain services.

Employees scheduled but not required to work will receive holiday pay for the day.

Section 2. An employee who is on the active payroll of the Company on a holiday recognized herein and who works his assigned schedule during that workweek, except for being absent without a legitimate reason, shall receive holiday pay at his straight-time pay rate. If an employee is scheduled or required to work on a holiday, but fails to do so, he will receive no holiday pay unless he has legitimate reason for not working.

Section 3. An employee who works on one of the above listed holidays shall be paid at one and one-half (1.5) times his straight-time base pay for all hours worked on that holiday, in addition to any holiday pay to which he may be entitled.

ARTICLE XIII
ANNUAL LEAVE

Section 1.

(a) Employees with less than three (3) years shall earn one (1) hour Annual Leave for every twenty (20) man hours worked (to a maximum of 104 hours per year).

(b) Employees with three (3) years, but less than fifteen (15) years shall earn one (1) hour Annual Leave per year for every thirteen (13) man hours worked (to a maximum of 160 hours per year).

(c) Employees with more than fifteen (15) years shall earn one (1) hour Annual Leave per every ten (10) man hours worked (to a maximum of 208 hours per Year).

(d) For the purposes of computing Annual Leave, paid absences shall be considered as hours worked. Paid absences to be defined as Annual Leave, sick leave and holidays. During periods of short or long term disabilities or Workmen's Compensation, no accrual of Annual Leave will take place.

(e) Leave will be accrued on a pro-rata basis commencing upon permanent date of hire after there has been a successful completion of the probationary period.

Section 2. An employee's request to take annual leave shall be granted if the employee has enough accrued leave and he has given his Foreman reasonable advance notice and the employee's absence would not unduly hinder the efficiency of the Company. Requests for Annual Leave for emergency reasons will be considered on an individual basis.

Section 3. Annual Leave may be requested in full hour increments only. Any employee having accrued unused leave at the end of the leave year shall have the privilege of carrying such unused leave forward into the following year. If unused leave is carried forward, a maximum of 120 hours will be permitted. Employees that request leave as set forth in Section 2 hereof and are denied due to workload requirements shall receive pay in lieu of time off if the employee is not permitted to carry over the time requested to the extent leave was denied.

Section 4. Should a holiday fall during the employee's vacation, he shall be entitled to an additional day of vacation, which shall be the next scheduled work day, which will be the employee's holiday.

Section 5. An employee who has Annual Leave to his credit but who leaves the service of the Company shall receive pay for such annual leave. This Section does not apply for an employee who leaves the Company without proper notice, one (1) week, in which event the employee forfeits all rights to receive pay for unused Annual Leave.

Section 6. The Company will keep accurate annual leave records of each employee in the Unit. Upon request such records will be made available to the employee or the Union.

ARTICLE XIV SICK LEAVE

Section 1.

(a) Employees covered by this Agreement shall accumulate sick leave credit on the basis of two (2) hours for each forty (40) man hours of service with the Company with a maximum accrual of 104 hours per year. Sick leave shall be calculated from the permanent date of hire. Sick leave can be accumulated without limit. However, an employee leaving the services of the Company will not be paid for any sick leave which he has accumulated.

(b) For the purposes of computing sick leave, paid absences shall be considered as hours worked. Paid absences to be defined as annual leave, sick leave, and holidays. During periods of short or long term disabilities or Workmen's Compensation, no accrual of sick leave will take place.

(c) Sick leave may be used for the employee's illness or the employee's doctor appointment.

(d) Sick leave may not be taken or used once the employee qualifies for short or long term disability payments.

Section 2. Sick leave records will be kept by the Company for each employee covered by this Agreement. Such records will be made available to each individual employee and for the Union upon request.

Section 3. Except as hereinafter provided, employees shall not be required to furnish a medical certificate to substantiate requests for sick leave, excepting when the illness exceeds three (3) consecutive scheduled work days. In the case of a communicable disease, and in the interest of protecting other employees, the Company may require medical certification of fitness to return to work. In the event of a period of disability, for any reason (injury or illness), a medical certificate, stating employee is fit for duty, will be required prior to returning to work.

ARTICLE XV
NO STRIKE - NO LOCKOUT

The Union agrees that it will not (during the term of this Agreement) cause, permit, threaten or participate in any strike, including the refusal to cross any other labor organization's picket lines, walkout, slow-down, boycott, picketing, work stoppage, refusal to work, or any other interference with the operation, management or functions of the Employer. The Employer agrees it will not lock out employees during the term of this Agreement.

Any employee taking part in or assisting or supporting such picketing or interruption of such operations shall be subject to discipline including discharge.

The Union shall not question the unqualified right of the Company to discipline or discharge employees engaging in, participating in or encouraging such action. It is understood that such action on the part of the Company shall be final upon the Union and its members, and shall in no case be construed as a violation by the Company of any provision of this Contract. Only the issue of fact as to whether or not any particular employee has engaged in, participated in or encouraged any such violation, is subject to the grievance procedure and arbitration.

The Company will not be required to deal with representatives of the Union during any period of picketing or interruption of operations by the Union or employees.

ARTICLE XVI
UNION REPRESENTATION

Section 1. The Company will recognize two (2) Shop Stewards and two (2) alternate Shop Stewards designated by the Union to the Company in writing. The Shop Stewards shall be allowed reasonable time during working hours to investigate complaints, process grievances and meetings with the Company, in connection with his collective bargaining responsibility. The alternate Shop Stewards shall assume such duties when the regular Shop Stewards are absent. The Steam Plant and Air Compressor Station will each have a Shop Steward and alternate designated by the Union from among the employees in each area to represent the employees in that respective area.

Section 2. The Company agrees that unit employees who file a complaint or grievance with the Company will not be questioned, in respect thereto, without the presence of a recognized Steward.

Section 3. The Shop Stewards shall be allowed reasonable time during working hours to investigate complaints, process grievances and hold meetings with the Company, in connection with his collective bargaining responsibility so long as the Shop Stewards shall under no circumstances cause any cessation of work or in any way interfere with the operation of the Company. In carrying out the duties of a Shop Steward it is understood the Shop Steward's duties shall not interfere with his being a productive, contributing and working employee of the Company subject to the normal and usual rules and regulations that apply to all other employees. Shop Stewards desiring to leave their work place must first clear the matter with their immediate supervisor.

Section 4. In the event of a layoff, the Shop Stewards shall be granted preferential seniority and will be retained without regard to seniority, as long as the Company has work which they are qualified to perform. In the event a recognized Union representative is laid off or terminated (for lack of work he is qualified to perform) he shall be the first recalled when work he is qualified to perform becomes available.

Section 5. Nothing in this Article shall be construed as the right to deny the International Representative or Business Agent the privilege of processing a grievance on behalf of a unit employee, or to participate in a grievance meeting conducted in accordance with the Grievance Procedure. It is mutually understood that such Union representative must be able to conduct himself in a professional manner and maintain channels of communications. If the Company believes in good faith that such representative does not meet these requirements it shall so notify and meet with the Directing Business

Representative to resolve the situation. If such a meeting fails to resolve the matter within ten days, the Company shall meet with a General Vice President. If the matter is not resolved with the General Vice President in ten days then the Company shall not be obligated to deal with such Union representative. The Union may grieve whether the Company's determination was made in good faith.

Section 6. The Union shall be free to withdraw a grievance at any step of the Grievance Procedure without prejudice.

Section 7. Employees in the Unit will not be suspended or discharged, without first being given the opportunity for a hearing with the Project Manager. Such employee shall be afforded the right to be accompanied and represented by the Union during said hearing.

Section 8. Upon prior notice to the Project Manager or his designated representative, authorized agents of the Union, who are not employees, may, in the sole discretion of the Company if the Union appeals in Section 5 of this Article have been exhausted, have access to the Employer's establishment during working hours for the purpose of adjusting disputes, investigating working conditions and ascertaining that the Agreement is being adhered to. Such notice will include name(s) and title(s) and specific purpose of visit. It is expressly agreed that the Employer is hereby released from any and all liability for any injury to such agent, occurring while he is on the premises of the Employer or at the Government site. It is further understood that the provisions of Section 3 hereof shall also govern the activities of these union representatives at the work site.

ARTICLE XVII UNIT WORK PROTECTION

Work normally and historically performed by Bargaining Unit-Employees will not be contracted out or assigned to exclude employees where such action would adversely affect unit employees' employment. Adversely affected, as used in the context of the Article, shall be interpreted to mean: layoff, failure to recall, failure to promote, and the temporary assignment of an excluded employee to work within a classification where qualified employees regularly holding the classification are reasonably available to perform the work.

It is recognized by the parties that business reduction situations may occur necessitating a reduction in force. It is not the intent herein to recall employees for temporary increases in work load which will not support full time employment. Should such situations arise the Company will utilize existing personnel to meet peak load conditions. However, it is agreed that where work load commitments will support recall of employees on layoff, such action will be taken.

ARTICLE XVIII WAGES AND CLASSIFICATIONS

Section 1. The rates of pay shall be those specified in Appendix "A" which is attached hereto and made a part hereof.

Section 2. The manning needs of any classification covered by this Agreement shall be determined solely by the Company. This Agreement will not constitute a guarantee of any particular job or jobs within any particular classification, nor shall it constitute a guarantee of any particular duties or deleting duties from a classification. The principle of equal pay for substantially equal work shall apply as it shall also apply to all employees within a classification.

Section 3. The Company, at its sole option, may implement new classifications and/or job descriptions in light of changed conditions and the Company shall negotiate a wage rate acceptable to the Union for such classifications/job descriptions.

ARTICLE XIX
INVALIDITY

If any Article or Section of this Agreement should be held invalid by operation of law, or by any legal tribunal of competent jurisdiction, or if compliance with or enforcement of any Article of action should be restrained by such tribunal pending a final determination as to its validity, the remainder of this Agreement shall not be affected thereby and shall continue in full force and effect. Upon request of either party, the parties shall negotiate a satisfactory replacement for such invalid provision.

ARTICLE XX
401(K)

The Company shall establish a 401(k) plan, to be funded by voluntary contributions of the employees. The cost to establish and administer the plan to the extent allowed by law shall be borne by the plan participants. The Company will match employee contributions to the 401(K) plan from September 1, 1996, to August 31, 1997, and from September 1, 1997, to August 31, 1998, in an amount equal to \$260 per year.

ARTICLE XXI
HEALTH & WELFARE BENEFITS

Section 1. For full time employees on the role as of September 1, 1991, who so elect and for full time employees hired after September 1, 1991, the Company shall make the contributions set forth in Section 2 hereof in order to provide the following benefits:

- (a) Life insurance in the amount of \$50,000.00 per employee; (after age 65 there are certain benefit reductions)
- (b) Accidental death & dismemberment policy in the amount of \$50,000-00; (after age 65 there are certain benefit reductions)
- (c) Union Delta Dental Plan A25; (25/75 deductible) and
- (d) Hospitalization and medical insurance (Cigna 10/250 Plan)
- (e) 401(k) Plan

The exact terms of the coverages are those provided pursuant to and as a part of insurance policies.

Should the cost of such benefits exceed the amount contributed by the Company, such excess cost shall be paid by the employee through payroll deductions.

Section 2. The Company shall pay the following amounts per employee per month to provide the coverages set forth in Section 1 hereof:

- (a) From November 1, 1998 - October 31, 1999:
 - Single coverage - \$317
 - Employee + one coverage - \$327
 - Family coverage - \$372
- (b) From November 1, 1999 - October 31, 2000:
 - Single coverage - \$327
 - Employee + one coverage - \$337
 - Family coverage - \$382

(c) The cost per employee for the dental coverage will be calculated monthly by the Company on a composite basis.

Section 3. For employees on the role as of September 1, 1991, who do not elect to have the hospitalization and medical insurance benefit set forth in Section 1 hereof, the Company shall pay on their behalf the insurance premium for the dental Plan, life, AD&D and pay in lieu of the hospitalization and medical insurance benefit not elected the balance of the Company's contribution of the single coverage rate provided for in Section 2, less whatever the employee directs to the 401(k) plan.

Section 4.

(a) The Company will provide short term disability insurance as follows:

66-2/3% of basic weekly pay to a maximum of \$300 per week.

Coverage will be from the 8th day of total disability and will extend through the 90th day of such disability.

(b) The Company will provide long term disability insurance as follows:

60% of basic monthly pay to a maximum of \$3,000 per month and in accordance with the insurance company schedule provided.

Coverage will be from the 91st day of total disability through the date you cease to be totally disabled or in accordance with the insurance company schedule in reference to age.

(c) It is recognized by the parties that cost of insurance premiums are subject to increase or decrease based on the experience rating of the carrier. In the event of a change in the premium cost of short and long term disability group insurance coverage the Employer will adjust the amount paid accordingly to insure that the agreed to coverage will be provided for the life of the Agreement at no cost to the employee.

Section 5. It is understood that the Company's contracts with insurance carriers provide the benefits contemplated under this Article. Interpretation and application of such contracts shall ultimately rest with the insurance carrier and any dispute thereunder shall be between the employee and the insurance carrier and not subject to the Grievance Procedure of this Agreement. The Company reserves the right to change insurance carriers so long as the primary benefits are essentially the same.

ARTICLE XXII
GENERAL PROVISIONS

Section 1. Employees within the Bargaining Unit shall be assigned and answerable to, the Contract Supervisor, or in lieu thereof, one (1) individual who shall be designated in writing, who shall be responsible for assigning work, approving absences and initiating disciplinary action. No employee shall be subject to discipline for refusing to carry out instructions of other than his designated Foreman.

Section 2. As long as NASA requirements include a provision which requires employees of the Unit to wear uniforms, the Company will pay the cost of furnishing and laundering a change of uniforms per employee per regular working day. In the event NASA requirements in this regard are changed, it is agreed the Company shall have the right to modify the provision of this Section to the extent that NASA shall not be liable to the Company, or the Union, for any cost which is not a requirement of the Contract between NASA and the Company.

The Company further agrees to make available several sets of rain gear in the form of slickers, hats and boots for field service trips during foul weather. This equipment will be kept in a designated area and will be checked out individually as needed. The employee will be responsible for this equipment while he has it signed out.

Section 3. The Union and the Company recognize the need to be flexible in scheduling the hours of shifts and transfers to different shifts in order to accommodate NASA directed work. In the event of changes due to NASA direction, the Company will endeavor to give a minimum of 5 days notice so long as the NASA direction to the Company is at least 5 days. If the Company gets less than 5 days notice, the Company will give whatever notice it gets.

Section 4. The Employer reserves the right to define the content of a job.

Section 5. Regular part-time employees (those employees regularly scheduled to perform less than forty (40) hours work per week who are not classified as a utility person) shall be paid pro rata benefits. Part-time employees who are scheduled on an "as needed" basis shall not be paid benefits. "Benefits," as defined for purposes of this proposal, means annual leave pay, holiday pay, sick leave or health and welfare benefits under Article XXI. To be covered by disability insurance, an employee must work an average of thirty (30) hours per week.

ARTICLE XXIII SUPERSEDING EFFECT OF AGREEMENT

It is expressly agreed and understood that the wages, working conditions and fringe benefits provided in this Agreement are in lieu of any and all working conditions and fringe benefits of any kind previously provided by the Company or its predecessor for employees within the Bargaining Unit.

ARTICLE XXIV DURATION

Section 1. This Agreement shall become effective September 1, 1998, and shall remain in full force and effect until October 31, 2000, and from year to year thereafter unless either party shall, no more than ninety (90) and at least sixty (60) days prior to any anniversary date hereof, notify the other party of a desire to amend or terminate this Agreement. In the event such notice is given, the parties shall communicate not later than fifteen (15) days after receipt of such notice for the purpose of scheduling negotiations of a new Agreement.

Section 2. No Agreement, waiver, alteration, understanding, variation or modification of any terms or conditions contained herein shall be made by any employee, or group of employees, with the Company and in no case shall it be binding upon the parties hereto unless such Agreement is made and executed in writing between the parties hereto, and the same has been ratified by the Union.

Section 3. The waiver of, or any breach of conditions of this Agreement, by either party, shall not constitute a precedent in the future enforcement of all the terms and conditions herein.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement this 29th day of August, 1996.

DISTRICT LODGE 74
INTERNATIONAL ASSOCIATION
OF MACHINISTS and AEROSPACE WORKERS

DIVERSIFIED TECHNOLOGY &
SERVICES OF VIRGINIA, INC.

APPENDIX A
WAGE, SCHEDULE, ENVIRONMENTAL AND DIFFERENTIAL PAY

Section 1. The Company agrees to pay the following hourly rate for the classifications listed below:

| <u>Classification</u> | <u>9/1/98</u> | <u>9/1/99</u> | <u>9/1/00</u> |
|----------------------------|---------------|---------------|---------------|
| Stationary Steam Engineer | 16.86 | 17.37 | 17.89 |
| Equipment Service Mechanic | 16.86 | 17.37 | 17.89 |
| Steamfitter | 16.86 | 17.37 | 17.89 |
| Water Treatment Analyst | 16.86 | 17.37 | 17.89 |
| Senior Plant Technician | 16.86 | 17.37 | 17.89 |
| Plant Technician | 16.02 | 16.50 | 17.00 |
| Utility Person | 6.82 | 7.02 | 7.23 |

Section 2. Shift differential shall be 35 cents per hour for second shift and 45 cents per hour for third shift work.

Section 3. When an employee is assigned to work the majority of a regular shift falling on Sunday, the affected employee will be paid 1.25 times the base rate plus applicable shift differential, if any, for all regular hours worked during the shift.

Section 4. When an employee is assigned to cleaning boilers fireside or waterside, he shall receive 1.5 times his basic rate.

Section 5. Employees hired after October 18, 1994 may be hired at the apprentice rate of \$12 per hour for those assigned to positions other than in the steam plant. The steam plant apprentice rate shall be \$12.50 hour. This rate shall only be applicable until an employee has worked 2080 hours for the Company in the apprentice rate category. (An employee will not get credit for time worked as a utility person.) Any such person in the apprentice rate category who has worked beyond the probationary period as per Article VII, Section 3, and who is on a regular schedule (not on an "as needed" basis), will be entitled to all the same benefits as a full-time or part-time employee, as the case may be.

Section 6. There is established a special classification of Utility Person, who shall earn the following benefits and wages, notwithstanding anything to the contrary in this Agreement:

(a) Benefits: In lieu of all benefits set forth in Article XXI, the Utility Person will receive a payment of \$1.29 per hour worked, which may be applied to the purchase of any benefit under Article XXI (if such benefit is available through the insurance carrier) or paid into the 401(k) plan under Article XX.

(b) Utility Persons will be entitled to a pro-rated vacation benefit based on the number of hours worked in the prior year (no vacation pay will be earned until the completion of each employment year).

(c) Utility Persons will not receive holiday pay, sick pay, shift premiums or Saturday or Sunday pay.

- (d) Utility Persons will work regular part time schedules of 16, 24 or 32 hours per week.

#19227

AGREEMENT BETWEEN

EG&G Langley, Inc.

AND

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS,

LOCAL UNION NO. 1340,

AFL-CIO

August 1, 1997

INDEX**ARTICLE**

- Preamble
- I. Term of Agreement
- II. Recognition
- III. Management Rights
- IV. Union Security
- V. Scope of Work
- VI. Definitions
- VII. Grievance Procedure
- VIII. Union Representatives
- IX. Referral of Employees
- X. Wages
- XI. Day Work Conditions
- XII. Temporary Shift Work Conditions
- XIII. Permanent Shift Work Conditions
- XIV. Holidays, Leaves, Jury Pay and Pension
- XV. Travel
- XVI. Supervision
- XVII. Tool Rooms
- XVIII. First Aid and Safety
- XIX. Interfacing
- XX. General Work Rules
- XXI. Seniority
- XXII. Protective Legislation
- XXIII. Periodic Conference
- XXIV. General Savings Clause
- XXV. Work Stoppage

XXVI. Langley Federal Credit Union Checkoff

XXVII. Apprenticeship and Journeyman Training

XXVIII. Health and Welfare

XXIX. Duration

Appendix "A" (Wage Rates)

General Work Rules

A G R E E M E N T B E T W E E N

EG&G Langley, Inc.

A N D

I N T E R N A T I O N A L B R O T H E R H O O D O F E L E C T R I C A L W O R K E R S , A F L - C I O
L O C A L U N I O N N O . 1 3 4 0**PREAMBLE**

THIS AGREEMENT entered into this 1st day of August 1997 by and between EG&G Langley, Inc (hereinafter referred to as the "Company"), and Local Union No. 1340, of the International Brotherhood of Electrical Workers, AFL-CIO, (hereinafter referred to as the "Union"), for the purpose of all maintenance work assigned to the Company by the National Aeronautics and Space Administration, (hereinafter referred to as "NASA"), under the Facility and Equipment Support Services (FESS) Contract and performed by the employees of the Company covered by this agreement only within the NASA Langley Research Center (Station) site and sites and properties related thereto.

WHEREAS, the Company is engaged in the business of maintenance (as defined in Article V) and this work is of importance to the Union, and it being recognized that there is a difference in the conditions required to perform this type of work, the Union and the Company wish to enter into an agreement for their benefit covering work of this nature.

WHEREAS, the Union has in their membership within the area, members competent and qualified to perform the work of the Company.

WHEREAS, the Company now employs members of the Union on maintenance work recognized by the Union.

WHEREAS, the Company and the Union desire to mutually establish hours of work and working conditions for the workers to the end that satisfactory conditions and harmonious relations will continue to exist for the benefit of both parties to this Agreement.

WHEREAS, the Company and the Union agree that, due to particular nature of the work covered by this Agreement, there shall be no lockouts or strikes during the life of this Agreement, and provisions must be made to achieve this end.

The Union, its members and all of those employees represented by the Union, agree to use its and/or their best endeavors to protect the interest of the Company, to consider the Company's property and to give service and/or work of the highest productive quality.

The Company and the Union have a common sympathetic interest in the maintenance industry. Therefore, a working system and harmonious relations are necessary to improve the relationship between the Company, the Union and the Public. Progress in industry demands a mutuality of confidence between the Company and the Union. All will benefit by continuous peace and by adjusting any differences by rational, common sense methods.

NOW, THEREFORE, in consideration of the mutual promises and agreements herein contained, the parties hereto agree to as follows:

ARTICLE I

TERM OF AGREEMENT

Section 1. This Agreement shall take effect August 1, 1997, and shall remain in effect through July 31, 2000 and shall continue in effect from year to year thereafter, unless changed or terminated.

Section 2. Either party desiring to change or terminate this Agreement must notify the other in writing at least sixty (60) days prior to August 1, 2000. When Notice for changes only is given, the nature of the changes desired must be specified in the Notice and until a satisfactory conclusion is reached in the matter of such changes, the original provision shall remain in full force and effect. Neither party hereto may reopen this Agreement for negotiations on any issue, either economic or non-economic, during this contract period or any extension thereof, except as provided in Section 3 below.

Section 3. This Agreement shall be subject to amendments at any time by mutual consent of the parties hereto. Any such amendment agreed upon shall be reduced to writing and signed by the parties hereto. The Union may submit the amendments to the International Office of the Union, as it relates solely to compliance with State and Federal regulations.

ARTICLE II

RECOGNITION

Section 1. The bargaining unit under this Agreement shall comprise all maintenance employees of the Company now employed or in the future for maintenance work at the NASA Langley Research Center (Station).

Section 2. The Company:

(a) Agrees to recognize the Union as herein duly constituted

for the purpose of bargaining collectively and administering this Agreement for the employees.

(b) Agrees to bargain collectively with the Union and to be

governed by the terms of this Agreement.

ARTICLE III

MANAGEMENT RIGHTS

The Union recognizes that the Company retains the sole right to manage its business, as such right existed prior to the execution of this agreement except only as expressly abridged by a specific provision of this Agreement. The Company reserves and retains, solely and exclusively, all of its inherent rights to manage the business including but not limited to, the direction of the working force including the right to hire, assign, suspend or discharge for just cause and to make rules governing the conduct of the working force which will be applied in a reasonable fashion. The Company and Union, by mutual agreement, may change or add to the General Work Rules contained in this Agreement.

The Company has a vital interest in maintaining safe, healthful and efficient working conditions for its employees. Being under the influence of alcohol or drugs (illegal or prescribed) on the job may pose serious safety and health risks not only to the user but to all industrial equipment vehicles and other employees. The possession and use, distribution or sale of an illegal substance or alcohol in the work place shall not be tolerated and may result in termination and prosecution. The Company recognizes that its own health and future are dependent upon the physical and psychological health of its employees. Accordingly, it is the right, obligation, and intent of the Company to maintain a safe, healthful, and efficient working environment for all of its employees and to protect Company/NASA property, equipment, and operations. The Union recognizes

and supports the Company's drug testing policy as agreed to on 1 March 1989. The Union has also agreed to as part of this agreement, the memorandum of Random Drug Testing as established August 1, 1994.

ARTICLE IV

UNION SECURITY

It is agreed that all employees coming under the terms of this Agreement shall be required to make application to joining the Union within thirty (30) days of employment or Agreement, whichever is later, and as a condition of continued employment, must maintain membership for the life of this Agreement and any renewal thereof. In the event the Union requests the contractor to dismiss an employee to comply with the provisions of this Article, such request shall be complied with by the contractor. The Union will notify all current and new-hire employees of their rights under union security.

ARTICLE V

SCOPE OF WORK

Section 1. This Agreement covers all maintenance work assigned to the Company by NASA under the Facility and Equipment Support Services Contract and performed by the employees of the Company covered by this Agreement only with the NASA, Langley Research Center (Station) site and sites and properties relating thereto.

Section 2. This scope of this Agreement does not cover work required to erect new major facilities. Work performed of this nature shall be done in accordance with any existing agreements between the company and the building_construction trades. This provision shall not serve to cause the Company to abrogate its contract with NASA.

ARTICLE VI

DEFINITIONS

Maintenance is defined as any work assigned by the Company which is consistent with the terms of the Company's Facility and Equipment Support Service Contract with NASA for the purpose of preserving NASA's facilities and wind tunnels in suitable working condition. Said work will be consistent with the Company's obligation to perform any such work under the Service Contract Act.

ARTICLE VII

GRIEVANCE PROCEDURE

Section 1. All grievances that may arise will be handled in the following manner. Any written grievance must be filed within five (5) working days of the event given rise to the grievance. In cases involving dismissal or suspension for just cause, the grievance may be instituted at Step III.

STEP I: Prior to processing any written grievance, any employee who believes he has a grievance, must discuss it with his immediate supervisor, with his steward being present. If the employee is dissatisfied with the answer given by his supervisor, or no answer is given within three (3) normal work days, Step II will be followed.

STEP II: The Employee and his steward shall present to the immediate foreman a written grievance form provided by the Company (which has been approved by Company and Union) stating what the grievance is, and the remedy sought. If the foreman's decision is not satisfactory, or is not given within three (3) normal work days, Step III will be followed.

STEP III: The grievance shall be forwarded by the Union steward to the Industrial Relations Manager or his designated representative within three (3) normal work days after the foreman's unsatisfactory written decision, or failure to give a decision. The Industrial Relations Manager shall meet with the Local Business Manager, or his designated representative, within three (3) days of receipt of grievance. If the Industrial Relations Manager's decision is not satisfactory, or is not given within five (5) normal work days, Step IV will be followed.

STEP IV: The Union may, no later than five (5) working days after receipt of the Company's decision in Step III, submit the matter to arbitration by requesting that the Federal Mediation and Conciliation Service submit a list of five (5) names of arbitrators, from which the Company and the Union shall choose an impartial arbitrator to decide the matter. Following receipt of the list of names of arbitrators, the parties shall then alternately strike the names from the panel and the name remaining shall be the Arbitrator in the case. The determination of which Party is to strike first shall be determined by a coin flip. Striking shall take place within seven (7) days of receipt of the arbitrator list.

Section 2. In arbitration proceedings, the expense of the impartial Arbitrator shall be shared by both parties.

Section 3. The Company shall attempt to provide facilities at Langley Research Center (Station) provided, however, if no facilities are available at the Center, the Union and Company agree to equally share expenses incurred in the hearing room.

Section 4. The findings of the Arbitrator shall be binding on both parties.

Section 5. All time limits stated in this Article shall be treated as jurisdictional in nature, and the failure to follow any of the set time limits shall result in the grievance being void and waived, and the matter shall end without resort to arbitration. A normal work day is defined as any day on which any bargaining unit employee is at work, Monday through Friday, excepting holidays.

Section 6. Except by mutual written agreement to the contrary, only one grievance shall be taken to arbitration at any time before the same Arbitrator.

Section 7. The impartial Arbitrator shall only have jurisdiction and authority to determine the meaning, application of, or compliance with the provisions of this Agreement and shall not have jurisdiction or authority to add or detract from or alter in any way such provisions or any rules of discipline attached hereto.

ARTICLE VIII

UNION REPRESENTATIVES

Section 1. Representatives of the Union shall have access to the job during working hours on Union business. They shall, as regulations on the site permit, obtain specific authorization for each visit from the Company when required.

Section 2. The Union has the right to appoint a Steward at the Company. The Company shall be notified and furnished the name of the Steward in writing. The Company will deal with any such designated Steward until such designated Steward has been revoked in writing by the Union. Such Steward shall be allowed reasonable time during the regular working hours, without loss of pay, to see that the terms and conditions of this Agreement are observed. In no event shall the presence of the Steward disrupt or interfere with the work of the Company. No Steward shall be discriminated against by the Company because of his faithful performance of duties as Steward.

The Steward shall be given preferential seniority provided he/she has been performing the steward duties for six (6) consecutive months and has not less than twelve (12) months seniority.

ARTICLE IX**REFERRAL OF EMPLOYEES**

Section 1. When employees are required, the Company shall request from the Local Union that the required number of applicants be referred for employment. The following standards shall apply:

(a) The selection of applicants for referral to jobs shall be on a nondiscriminatory basis and shall not be based on, or in any way affected by Union membership, by-laws, rules, regulations, constitutional provisions, or any other aspect of obligation of Union membership, policy, or requirement. Local Union 1340, International Brotherhood of Electrical Workers, does accept application for referral to the Maintenance Project covered by this Agreement regardless of race, color, sex, handicap, national or ethnic origin. It does not discriminate on the basis of race, color, sex, handicap, national or ethnic origin in the referral of applicants.

(b) The Company shall retain the right to select or reject any applicant referred by the Local Union, and shall have the further right to select any applicant from among those referred by the Union. When the Company requests an applicant or referral from the Union, the Union will refer such applicant within forty-eight (48) hours [two (2) working days] and in the event the Union fails to refer an applicant within that period of time, the Company is free to utilize other sources to fill its manpower needs.

(c) The Local Union shall post in places where notices to employees and applicants for employment are customarily posted, all provisions relating to the function of its hiring arrangements, including the provisions herein set forth. The Company shall similarly post in places where notices to employees and applicants for employment are customarily posted, all provisions relating to the function and operation of the hiring arrangements including these provisions.

(d) The Union agrees to indemnify and hold the Company harmless against any and all claims, demands, suits, costs and/or any other forms of action and assumes any and all liabilities and expenses that shall arise out of or by reason of the Union's administration of the hiring hall referred to in this Article. It is also expressly understood that those applicants that are referred by the Union will be selected on a nondiscriminatory basis and that the Company shall assume the liabilities that attach for failure to hire an applicant referred by the Union.

(e) The Union agrees to recognize the Company's Affirmative Action Program and will refer qualified job applicants according to established underutilization goals.

Section 2. In addition to the foregoing minimum standards, the Local Union agrees to refer all applicants for employment to this project according to the standards for criteria uniformly applied to any project in the area. All exclusive referral procedures must establish Appeal Boards and the Company and the applicable Local Union agree to be bound by all decisions of the Appeal Board.

Section 3. The Company agrees to be bound by the hiring practices in the local area not inconsistent with the terms of this Agreement, provided that, where the hiring provisions or practices that prevail in a local area are on other than an exclusive basis, such provisions or practices shall be applicable if not in violation of either State or Federal law.

Section 4. The Company and the Union therefore agree that the Local Union will offer its area hiring plan to the Company by letter of transmittal. The Company agrees that upon reviewing said plan, it will offer a letter to the Union in which they acknowledge and accept the hiring plan. This letter will then, by agreement, become part of this Agreement.

Section 5. The designation and determination of the number of foreman and other supervisory personnel is the responsibility of the Company.

Section 6. The above hiring provisions have been entered into in order to comply with the Mountain Pacific doctrine of the National Labor Relations Board. Upon any Board or court decision or administrative ruling modifying or changing the Mountain Pacific doctrine, either party to this Agreement shall have the right to re-open negotiations pertaining to this Article by giving the other party thirty (30) days written notice.

ARTICLE X

WAGES

Section 1. Wage rates set forth in Appendix "A" attached hereto, and made a part hereof, are to be paid to those employees listed under Appendix "A" for the term of this Agreement.

Section 2. Wages will be paid by-weekly by means of direct deposit or by check to be delivered to the job site. The payroll period to close at midnight on Friday.

Section 3. The Company agrees to make available to all employees United States Savings Bonds through payroll deduction.

Section 4. Working and Basic Dues Checkoff:

The Company agrees that it will make Union Working Dues Deductions from the pay of all members working under the terms of this Agreement plus Bi-Weekly Union Dues on the basis of individually signed payroll deduction authorizations on the form set out below in Section 5. The Company will make these deductions bi-weekly as designated in the individually signed payroll deduction authorizations. The Employer will pay the aggregate of such deductions monthly to the Financial Secretary of the Union, who shall be authorized to issue a receipt in the amount of the calendar monthly deductions. The Company shall send a mutually agreed number of copies of a form furnished by the Union which sets forth the employee's name, social security number, the number of clock hours worked, and the employee's gross earnings for the calendar month, and said copies will be executed to cover the aggregate number of bi-weekly payrolls in each calendar month. The check and/or respective monies shall be transmitted not later than fifteen (15) days after the end of the month for which deductions are being made.

Section 5. Deduction Form:

TO: EG&G LANGLEY, INC - (EMPLOYER)

I hereby authorize and direct you to deduct Union working dues bi-weekly from my pay, plus monthly basic Union dues, both amounts of which are to be determined by the Local Union by-laws and the IBEW Constitution and to forward same monthly to the Financial Secretary of the Union in accordance with the Agreement between the Union and the Company. This deduction shall be made from all wages earned by me while working in the jurisdiction of Local Union 1340, IBEW.

This authorization is voluntarily made in order to pay my fair share of the Union's cost of representing me for the purposes of collective bargaining, and this authorization is not conditioned on my present or future membership in the Union.

This authorization and direction shall be irrevocable for a period of one (1) year from the date hereof or until the termination date of present Agreement, whichever is sooner, without regard to whether I am a member of the Union during that period, and I agree that this authorization shall be automatically renewed and irrevocable for successive periods of one year unless revoked by written notice to you and the Union within the ten (10) day period prior to the anniversary of this authorization. I understand that under current

law the payments covered by this authorization are not deductible as charitable contributions for federal income tax purposes.

Name (printed)_____Signature_____.

Date:_____Social Security Number:_____

ARTICLE XI

DAY WORK CONDITIONS

Section 1. Eight (8) hours per day shall constitute a standard work day normally between the hours of 7:00 am and 3:30 pm. Forty (40) hours per week shall constitute a week's work, Monday through Friday, inclusive.

Section 2. All time worked before and after the established work day of eight (8) hours, Monday through Friday, and all time worked on Saturday shall be paid for at the rate of time and one-half (1 1/2). All time worked on Sundays and the Holidays stated in Article XIV shall be paid for at the rate of time and one-half (1 1/2).

Section 3. By mutual consent of the Company and the Union, the starting and quitting times of any shift, including day work, may be permanently changed.

Section 4. Employees called back to work after the conclusion of their regular shift hours shall be compensated for a minimum of three (3) hours at the appropriate overtime rate regardless of whether the employee is required to work the entire three (3) hours. In addition, any employee called back to work after his regular shift hours shall be promptly excused upon completion of the job which he was called in to perform.

Section 5. In assigned overtime, employees shall perform the overtime work required. Employees actively working the task requiring overtime shall perform the overtime work required. In the event of extenuating circumstances an employee is unable to perform overtime work assigned, the overtime assignment shall be referred to the overtime policy to be established mutually between the Company and the Union.

Section 6. Full time regular Employees terminated by reason of lay-off shall be notified at least two (2) weeks prior to such termination date. Employees who are laid-off or discharged will be paid all monies due

by the end of the next pay period, providing all indebtedness and obligations to the Company by the employee are satisfied.

Section 7. Any employee showing up on time for work on a regular scheduled work day Mon-Fri, not having been previously notified to report to work, but to whom no work is provided shall receive two (2) hours of pay for show-up time. Employees may be required to stay on the job for the duration of the show-up period.

Section 8. The Company may elect a 4/10 hr work week in order to meet the customer's needs. The Union and affected employees will be given 3 working days notice prior to the commencement of the shift. The 4/10 shifts will originally be established on a volunteer basis. If there are more volunteers than needed, the employees with the most seniority will be awarded the 4/10's provided they have the necessary skills to perform the job. If there are not enough employees volunteering, the employees with the least seniority will be required to work the 4/10's provided they have the necessary skills to perform the job. The following Day Work Conditions shall apply to any established 4/10 work week:

(a). Ten (10) hours per day shall constitute a standard work day normally between the hours of 6:00 AM and 6:00 PM. The starting time may vary from 6:00 AM to 7:00 AM. Forty hours per week shall constitute a week's work. Initial conflicts in scheduling between A and B shift will be determined by seniority.

CREW A - Monday through Thursday
CREW B - Tuesday through Friday

(b). All time worked before and after the established work day of 10 hours shall be paid for at the rate of time and one half (1 1/2). All time worked on Friday, Saturday and Sunday for **CREW A** shall be paid for at the rate of time and one half (1 1/2). All time worked on Saturday, Sunday and Monday for **CREW B** shall be paid for at time and one half (1 1/2).

(c). There shall be a 30 minute **unpaid** lunch period.

(d). Pay day for **CREW A** will be on Thursday, but checks will not be cashed until Friday.

(e). For the purpose of bereavement and jury duty, a ten hour day shall be reimbursed.

(f). Administrative time will be based on a 10 hour day when allowable by NASA.

(g). Two and one half (2 1/2) hours will be allowed for employees who are on the 4/10 hour shift and leaving early at the end of the work day to donate blood.

HOLIDAYS

EG&G will observe the holiday schedule stated in the Maintenance Collective Bargaining Agreement.

1. Should a holiday be celebrated on a crews' normal day off, i.e., **CREW A - Friday, CREW B - Monday**, an alternate day will be given to observe the holiday.
 - a. Holiday falls on **Monday - CREW B** will observe **Tuesday**.
 - b. Holiday falls on **Friday - CREW A** will observe **Thursday**.
2. A holiday will be considered an **8** hour day for payroll purposes. To make up the **2** hour difference between this and the newly enacted **10** hour work day, and to establish a 40 hour week, an employee may elect to take **2** hours vacation time. The other alternative would be to take **LWOP VOL**.

GRIEVANCE PROCEDURE

For those employees on four tens filing grievances the term "normal work days" referenced in the Collective Bargaining Agreement shall mean Monday through Friday.

OVERTIME POLICY

When "A" shift employees are performing a job which is continued on Friday by "B" shift employees and unscheduled overtime is necessary on Saturday, the aforementioned employees with the least amount of overtime on the overtime roster shall perform the work.

ARTICLE XII

TEMPORARY SHIFT WORK CONDITIONS

Section 1. When so elected by the Company, multiple shifts consisting of no less than eight (8) hours may be worked. When two (2) or three (3) shifts are worked, the first or day shift shall normally be established on an eight (8) hour basis, 7:00 am to 3:30 pm; the second shift shall normally be established on an eight (8) hour basis, 3:15 pm to 11:45 pm; and the third shift shall normally be established on an eight (8) hour basis, 11:30 pm to 8:00 am.

Section 2. The pay for the second shift shall be straight time plus seven and one-half (7 1/2) percent; and the third shift rate of pay shall be straight time plus ten (10) percent.

Section 3. All time worked before and after the established shift hours in any twenty-four (24) hour period, Monday through Friday, inclusive, and all time worked on Saturdays shall be paid at the rate of time and one-half (1 1/2). All time worked on Sundays and Holidays shall be paid at the rate of time and one-half (1 1/2). Employees scheduled to work on a Saturday, Sunday, or Holiday should be guaranteed a minimum of three (3) hours work at the appropriate overtime rate.

Section 4. Night Shift Rotation:

Any second or third shift work shall be on a voluntary basis. The most senior employee that volunteers shall have first priority. If there are no volunteers, the least senior employee shall be put on the above shift work, which shall be rotated every ninety (90) days. There shall be five (5) working days advance notice given for scheduled night shift work, except in cases of emergency. If employees volunteer for shift work this does not relieve them of their normal scheduled rotation.

(This section does not apply to employees who have permanently volunteered or have been permanently hired for the night shift. Provided this does not restrict the Employer for assigning said employees to a different shift according to the above procedure.)

ARTICLE XIII**PERMANENT SHIFT WORK CONDITIONS**

Section 1. A four (4) cycle shift system will be operated only when the work is considered to be of a permanent nature. The names of those men employed on permanent shifts will be published showing shift rotation and the working shift or the day off for each man for a period of at least three (3) months.

Section 2. The permanent shift rate for the afternoon shift will be straight-time plus seven and one-half (7 1/2) percent, and the permanent shift rate premium for the night shift will be straight-time plus ten (10) percent.

Section 3. The standard work day shall be eight (8) hours of continuous employment excluding lunch period. Forty (40) hours per week shall constitute a week's work. All time worked in excess of eight (8) hours per work day and all time worked on either one of the two scheduled off days shall be paid for at the rate of time and one-half (1 1/2). If both of the scheduled days off are worked, the first day shall be paid at the rate of time and one-half (1 1/2) and the second day shall be paid at the rate of time and one-half (1-1/2).

Section 4. Permanent shift workers will have two (2) consecutive days off per week in lieu of Saturday and/or Sunday.

Section 5. When permanent shifts are to be reduced or canceled, the Union shall be given at least three (3) days notice in writing, if possible.

ARTICLE XIV

HOLIDAYS, LEAVES, JURY PAY AND PENSION

Section 1. Holidays:

(a) The following days shall be observed as holidays under this Agreement:

| | |
|------------------------|------------------|
| New Year's Day | Labor Day |
| Martin Luther King Day | Columbus Day |
| Washington's Birthday | Veteran's Day |
| Memorial Day | Thanksgiving Day |
| Independence Day | Christmas Day |

*** The above holidays will be observed on the same day NASA observes them.**

(b) In the event the government proclaims a permanent holiday other than those listed in Section 1 above, then the employees shall be granted that holiday. If an employee is scheduled to work on a holiday, but fails to do so, he will receive no holiday pay.

(c) An employee who works on one of the above-listed holidays shall be paid at time and one-half (1 1/2) his straight-time base rate of pay for all hours worked on that holiday, in addition to any holiday pay for which he may be qualified.

(d) Holiday pay shall not be included in computation of weekly overtime.

(e) To be eligible for holiday pay, an employee must work his regularly scheduled day before the holiday and his regularly scheduled day after the holiday unless excused by the Company.

(f) Only permanent shift employees shall be paid holiday, vacation, and sick leave at their applicable shift rate of pay.

Section 2. Administrative Leave:

On days not recognized as holidays under Section 1 above, but where the government, because of special events and occasions substantially reduces the normal activity at the Center because of such social event or occasions, and allows reimbursement to the Company, the following provisions shall apply:

(a) Those employees who are required to work will be paid at their straight-time hourly rate; provided, however, that said employee will receive compensatory time off equal to the time worked and his straight-time base rate of pay for such compensatory time.

(b) Those employees who are not required to work will receive a day's compensation at their regular straight-time hourly rates.

(c) Employees who are out on sick leave or vacation will charge their time to sick leave or vacation and not administrative leave, when notification of base closing is given after the end of the shift that is immediately prior to the administrative leave.

Section 3. Annual Leave:

(a) Employees with less than three (3) years, shall earn one (1) hour Annual Leave per year for every twenty (20) man-hours worked.

(b) Employees with three (3) years, but less than fifteen (15) years, shall earn one (1) hour Annual Leave per year for every thirteen (13) man-hours worked.

(c) Employees with more than fifteen (15) years shall earn one (1) hour Annual Leave per year for every ten (10) man-hours worked.

(d) Employees are permitted to carry only thirty (30) days of Annual Leave from one year to the next, by December 31 each year.

(e) Length of service includes the whole span of continuous service with the present (successor) contractor, and with the predecessor contractors in the performance of similar work at the same Federal Facility.

(f) Employees desiring to take Annual Leave must receive permission from the Company by 9:00 am the day before Annual Leave is desired. Effective upon signing this Agreement, each employee will be allowed four (4) unscheduled annual leave absences to be taken at the employee's discretion. The employee will have four (4) opportunities from August 1 to July 31 to take this unscheduled leave. The total number of hours for unscheduled absences can not exceed thirty (30) hours.

(g) Employees who schedule vacations of one (1) week or more and who submit a written request through Payroll three (3) weeks or more in advance of the vacation starting time, will be paid vacation allowance prior to the end of the work shift on the last work day preceding the vacation schedule.

(h) In an effort to equitably meet employees requests for Annual Leave and in order to be compatible with efficient operations, all employees, on or before December 1 of each year, must submit their Annual Leave preferences in writing for the following year.

Section 4. Sick Leave:

- (a) Employees will earn one (1) hour of sick leave for every twenty (20) hours worked.
- (b) Employees absent from work because of illness must, upon reasonable request in accordance with the Company's sick leave policy, submit administratively acceptable evidence that they were ill and unable to work.
- (c) Employees may accumulate all unused sick leave from one year to the next.
- (d) Employees absent from work because of illness must inform the Company of the telephone number where they may be reached during such time of illness.
- (e) Employees requesting same day sick leave calling in later than the start of the shift will receive Leave Without Pay (LWOP) for the day.
- (f) Employees will be required to submit a written doctor's excuse for all hours exceeding twenty-four (24) in any twelve (12) month period. Employees failing to submit the appropriate documentation will be subject to the following disciplinary action:
 - 1. The first offense will be a suspension equal to the amount of hours in excess of twenty-four (24) hours.
 - 2. The second offense will be a three (3) day suspension.
 - 3. The third offense will result in termination.
- (g) Employees having 400 hours and above of accrued sick leave may extend their initial twenty-four hour period by submitting doctor's excuses during that period. Employees having less than 400 hours will have all sick leave hours used counted toward the twenty-four hour period.

Section 5. Jury Pay:

- (a) Regular full-time employees who are absent on a regularly scheduled day and/or days of work because of jury service shall be paid. Said jury service pay is conditioned upon such employee reporting his jury summons in advance to the Company and such employee proving the amount of compensation received for such jury service. Upon receipt of the employee's pay voucher received from the court, the employee will have the same amount deducted from his/her pay. Because pension contribution is based on gross pay this deduction will affect the original pension contribution. Time off for jury service and/or pay therefor shall not be counted as hours worked for purposes of computing overtime.

(b) Regular full-time employees are allowed time off without loss of pay only when subpoenaed/summoned by the city, county, state, or federal government or the Company on behalf of the government or the Company, in cases where the government or the Company have a principal interest. The employee must provide the company with a copy of the subpoena/summons verifying attendance and verification of monies paid for court services.

Section 6. Bereavement Pay:

(a) In the event of the death in an employee's immediate family of any of the following relatives; Spouse, Child, Mother, Father, Brother, Sister, the employee shall be entitled to be absent from work for a period not to exceed three (3) normal working days to afford him an opportunity to attend the funeral and/or participate in other matters relating to the death of the deceased. This period of time will not exceed three (3) normal work days following the funeral. During such absence, the employee shall be compensated at his regular straight-time hourly rate for each eight (8) hour work day absent.

(b) In the event of the death of an employee's Grandparent or an employee's Grandchild, the employee shall be granted two days off to attend the funeral providing the funeral occurs on a normal work day and providing the employee attends the funeral. During such absence the employee shall be compensated at his regular straight-time hourly rate.

Section 7. Retirement Fund:

(a) The Company agrees to contribute on behalf of all employees working under the terms of this Agreement, seven and one-half percent (7.5%) of their gross bi-weekly pay into a Pension Fund on an individual account basis.

(b) The said Pension Fund shall be administered pursuant to an agreement and declaration of trust administered jointly by an equal number of persons representing the Local Union and the Company.

(c) The Trustee shall determine the rules and regulations regarding the Pension Fund and that such rules and regulations conform to all requirements of the law.

(d) The check and/or respective monies shall be transmitted not later than fifteen (15) days after the end of the month for which contributions are being made. Along with the check for the amount of calendar monthly contributions, the Company shall furnish to the Trust Fund a mutually agreeable form setting forth the employee's name, social security number, the number of clock hours worked, and his gross earnings for

the calendar month, and said copies will be executed to cover the aggregate number of bi-weekly payrolls in each calendar month.

ARTICLE XV

TRAVEL

During the term of this Agreement subsistence, travel allowance, mileage, per diem, or pay for travel time shall not be paid to any employee covered by the terms of this Agreement unless approved by the Contract Manager.

ARTICLE XVI**SUPERVISION**

The Company reserves the right to send into the area of work as many supervisors and engineers as it deems necessary to carry out the work covered by this Agreement, but they shall not perform any manual work, except in cases of emergency, instruction, and on the job training.

ARTICLE XVII**TOOL ROOMS**

The Company and the Union agree that it shall be the Company's prerogative to maintain and operate tool rooms and parts warehouse facilities.

ARTICLE XVIII**FIRST AID AND SAFETY**

Section 1. The employees covered by this Agreement shall, at all times while in the employ of the Company, be bound by the safety rules and regulations as established by the Company. All employees will be issued Company safety manuals.

Section 2. A Joint and Safety Health Committee will be established for the purpose of making constructive recommendations to the Company. The Committee will consist of four (4) members; two (2) appointed by the Company and two (2) bargaining unit employees appointed by the Union. Meetings shall be held once each month and the time spent in attendance by these members shall be compensated for the time at the employee's applicable rate of pay, and minutes shall be recorded and copies furnished to the members of the Committee.

ARTICLE XIX**INTERFACING**

On projects requiring multi-craft support, those crafts may be required to support each other in an effort to complete the task in a more efficient manner. This will require craftsmen to assist other crafts under the direction of the craftsman needing the assistance. In no way is this intended for craftsman to perform the technical tasks of another trade.

ARTICLE XX

GENERAL WORK RULES

General Work Rules affecting employee conduct are attached hereto and made a part hereof.

It is agreed by the Union that all of the employees covered by this Agreement shall be made aware of these General Work Rules and regulations by the Company at the time of their hire and that they shall be bound by them throughout the duration of their employment.

It is further agreed that violation of these General Work Rules and regulations is direct and just cause for disciplinary action, including immediate discharge subject to Article VII, Grievance Procedure.

ARTICLE XXI

SENIORITY

Section 1. In the event of reduction of the work force, employees with shortest length of service in their craft, will be laid off first.

Section 2. All new employees shall be on a probationary period for a period of ninety (90) calendar days. Probationary employees shall receive the wages and the fringe benefits, as described in this Agreement. New employees shall have no seniority until the probationary period has been completed. After completion of the probationary period, an employee's seniority shall then be credited from the date of hiring.

Probationary employees shall receive performance reviews on or about thirty (30), sixty (60), and eighty-five (85) days after date of hire. Any decisions by the Company to terminate a probationary employee on the basis of response to supervision, attendance, or ability to perform assigned tasks, shall be final and will not be subject to Article VII (Grievance Procedures) of this Maintenance Agreement. This applies to the termination of probationary employees only.

Section 3. A list of employees arranged in order of length of service with the Company (Predecessor inclusive) and length of service within a craft, shall be prepared by the Company once every six months. One copy shall be sent to the Union, another copy shall be posted in a conspicuous place on the Company's bulletin board.

Section 4. Any controversy of the seniority standing of any employee on the seniority list must be submitted to the Company within fifteen (15) days after the posting of the seniority list or any such protest shall be deemed to be waived.

Section 5. Seniority shall be canceled and terminated upon the happening of any of the following events:

- (a) An employee quits.
- (b) An employee is discharged
- (c) An employee fails to return to work within five (5) days of notice of recall given by the Company by registered or certified mail.
- (d) Settlement has been made for total disability.
- (e) An employee has retired.
- (f) An employee has been in layoff status for more than twelve (12) months, or is absent because of sickness or injury for twenty four (24) months.

Section 6. Apprentice craft seniority, upon completion of the apprenticeship, shall revert back to the date of Indenture.

Section 7. Should an employee accept a position with the Company, whether covered by the Bargaining Agreement or not and he or she or the Company decides, within 90 days against said move the employee shall be reinstated to his or her former position with no loss of seniority or pay as if the move had never occurred.

ARTICLE XXII

PROTECTIVE LEGISLATION

All employees covered by this Agreement shall have the protection of all existing Federal, State, and Local laws applicable to employees in general.

ARTICLE XXIII

PERIODIC CONFERENCE

Periodic conferences shall be held by the parties from time to time for the purposes of discussing matters of mutual interest.

ARTICLE XXIV

GENERAL SAVINGS CLAUSE

Any provisions in this Agreement which are in contravention of any Federal, State, Local or County regulations or laws affecting all or part of the limits covered by this Agreement shall be suspended in operation within the limits to which such law or regulation is in effect. Such suspension shall not affect the

operation of any such provisions covered by this Agreement, to which the law or regulation is not applicable. Nor shall it affect the operations of the remainder of the provisions of the Agreement within the limits to which such law or regulation is applicable.

ARTICLE XXV

WORK STOPPAGE

During the term of this Agreement, there shall be no lockout by the Company, and no slowdown, work stoppages, or sympathy strikes by the Union.

ARTICLE XXVI

LANGLEY FEDERAL CREDIT UNION CHECKOFF

The Company agrees to checkoff authorization, if duly signed by the employee, for the Langley Federal Credit Union and said money will be forwarded to the Credit Union, subject to the following:

(1) All authorizations for Langley Federal Credit Union checkoffs will be honored by the Company only upon the receipt by the Company of executed forms sent to the Company by the Credit Union.

(2) All cancellations for Credit Union checkoffs will be honored by the Company only upon the receipt by the Company of properly executed forms sent to the Company by the Credit Union.

(3) All cancellations of increases or decreases in such checkoffs which are received by the Company a minimum of three (3) working days prior to the close of a pay period, will be processed by the Company effective with that pay period provided, however, at least thirty (30) days have lapsed since processing a change notice for the affected employee. The Union agrees to save the Company harmless from any action or claims growing out of these deductions (checkoff) and commenced by any employee or former employee of the Company. The Company's sole responsibility is to forward the monies deducted to the credit Union bi-weekly. The checkoff period to close midnight on Friday and payment to be mailed on or before the Friday of the following pay week.

ARTICLE XXVII

APPRENTICESHIP AND JOURNEYMEN TRAINING

An Apprenticeship Training Program, as specified by separate agreement, will be offered and maintained during the life of this Agreement and all subsequent Agreements until such time as terminated by mutual agreement by both parties.

ARTICLE XXVIII

HEALTH AND WELFARE

Section 1. Group Medical Insurance

(a) The Company will continue to sponsor Group Medical for all employees and employee dependents through 31 July 2000.

(b) Entry into the program is restricted to new hires at the time of hiring or existing employees between July 1, and July 31, of each year.

(c) Effective 1 August 1997 through 31 July 2000, Employees electing to participate in the Health Fund will have a 12% co-payment. Effective August 1, 1997 the bi-weekly co-payment will be \$7.30 for single coverage, \$16.06 for employee plus one, and \$20.08 for family coverage.

(d) Annual increases in premium cost, as requested by the Health Fund Trustees, on 1 August 1998, will have a three percent (3%) cap and on 1 August 1999 will have a three percent (3%) cap.

(e) All employees covered under this agreement shall have the option of enrolling in the group medical plan as described above, or at the individual employee's option, may elect to receive thirty-four (34) cents per hour in lieu of accepting the medical coverage offered.

Section 2. Group Life Accidental Death/Dismemberment and Weekly Accident/Sickness

The Company will continue to sponsor Group Life, Accidental Death/Dismemberment, and Accident/Sickness Disability insurance for all employees. Any increase in Group Life, AD&D or Accident/Sickness on 1 August 1998 or 1 August 1999 will have a 3% cap and the first 3% is to borne by the company. Any increases in excess of 3% will be borne by the employee.

Section 3. Change of Carriers:

During the term of this Agreement, the Company may, with the concurrence of the Union, change the Carrier or Carriers of any of the insurances described in Section 1.(a) provided that the benefits provided by the plan or plans remain substantially equivalent to those currently provided.

ARTICLE XXIX

DURATION

This Agreement constitutes the entire agreement between the parties and any prior practices inconsistent with this Agreement are not binding on the Company.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement consisting of -45- pages, which has been signed on this -31st day of ---JULY---, 1997.

The masculine gender as used herein ("he", "his", "him", "man") shall be deemed to include the feminine gender ("she", "hers", "her", "woman").

FOR THE EMPLOYER:

FOR THE UNION:

EG&G LANGLEY, INC.

**INTERNATIONAL BROTHERHOOD
OF ELECTRICAL WORKERS,
AFL-CIO LOCAL UNION NO.
1340**

James R. Carbonneau
General Manager

Richard Adams
1340 Business Manager

Lester W. Jordan
Manager, Industrial Relations

Raymond Tucker
1340 Chief Steward

Robert E. Caldwell
Manager, Maintenance

Keith Jackson
1340 Bargaining Committee

Steve Nelson
Branch Manager, Pipe/Welding

Larry Minter
1340 Bargaining Committee

APPENDIX "A"
WAGE SCHEDULE

Section 1. The Company agrees to pay the following hourly rate for the classifications listed immediately below:

MINIMUM WAGE RATE PER HOUR

| CRAFT/SKILLS | EFFECTIVE | EFFECTIVE | EFFECTIVE |
|-----------------------------------|-----------|-----------|-----------|
| | 1 AUG 97 | 1 AUG 98 | 1 AUG 99 |
| Laborer, Class "B" Maintenance | 9.06 | 9.35 | 9.65 |
| Laborer, Class "A" Maintenance | 9.61 | 9.92 | 10.24 |
| Painter, Maintenance | 15.34 | 15.83 | 16.34 |
| Carpenter, Maintenance | 15.73 | 16.23 | 16.75 |
| Roofer, Maintenance | 15.73 | 16.23 | 16.75 |
| Asbestos Worker | 15.73 | 16.23 | 16.75 |
| Insulator, Pipecover, Maintenance | 15.73 | 16.23 | 16.75 |
| Mason, Bricklayer, Maintenance | 16.22 | 16.74 | 17.28 |
| Electrician, Maintenance | 16.22 | 16.74 | 17.28 |
| Mechanic, Maintenance | 16.22 | 16.74 | 17.28 |
| Millwright, Maintenance | 16.22 | 16.74 | 17.28 |
| Water Treatment | 16.22 | 16.74 | 17.28 |
| Pipefitter, Maintenance | 16.22 | 16.74 | 17.28 |
| Welder | 16.22 | 16.74 | 17.28 |
| Mechanic, Ref & A/C Maintenance | 16.22 | 16.74 | 17.28 |
| Sheet Metal | 16.22 | 16.74 | 17.28 |
| Rigger, Maintenance | 16.22 | 16.74 | 17.28 |
| Crane Operator, Maintenance | 16.22 | 16.74 | 17.28 |
| Machinist, Precision | 16.51 | 17.04 | 17.59 |
| Precision Machine Repairman | 16.51 | 17.04 | 17.59 |
| Technician, Ref & A/C Maintenance | 16.51 | 17.04 | 17.59 |

Section 2. All permanent employees hired on or after 1 March 1989 shall receive \$.50/hour less than the above rate for 90 days.

Section 3. Temporary hires (not to exceed 120 days) and summer hires shall receive the established rate but shall not be eligible for any fringe benefits in addition to their monthly rate.

Section 4. Anyone assigned to perform work as a lead shall be compensated at the rate of \$.50 per hour. This rate shall be added to his/her base rate and made a part thereof while so assigned.

CBA Between EG&G Langley Inc. and IBEW Local 1340**August 1, 1997****GENERAL WORK RULES**

The "Employee Conduct, Counseling and Disciplinary Action" Policy No. 106-3, dated August 1, 1997, is provided for your information and guidance. These rules are established to define a standard of personal conduct which is expected of every employee while on duty. A violation of any rule that merits disciplinary action will be acted upon by the Company as follows:

PURPOSE

The purpose of this policy is to provide a work environment that produces maximum efficiency, high employee morale and individual recognition. Our experience has shown that almost all employees enjoy working in such an environment.

SCOPE

Having a work environment which is based on the concept of individual dignity requires the establishment of rules and regulations to be used as guidelines for measuring conduct in individual situations.

These work rules place demand on the individual employee as well as the Company. The Company must ensure that the regulations are administered fairly and the employee must understand and abide by the standards.

When employees know and understand the work rules, there is seldom a need to impose compliance. The policy and procedures that follow details the work rules, counseling procedures (often called "Progressive Discipline") and an employee appeal process to ensure fairness.

POLICY

Management is responsible for establishing and communicating to all employees EG&G's work standards, policies, standard practices and ensuring that these standards are administered in a fair and just manner. Each situation involving employee conduct represents an individual problem, therefore, good judgment and thorough knowledge of the facts are essential for timely resolution.

All EG&G employees are responsible for maintaining acceptable conduct while on the job. In the event an employee's conduct falls below acceptable standards, the employee will be counseled and may be subject to disciplinary action.

To maintain an effective policy, investigations must remain objective. When a breach of standards occurs, the manager will thoroughly investigate and review all relevant facts and allow the employee to explain his/her conduct. The eventual decision must be based on a fair investigation, in which the employee has had ample opportunity to be heard. In addition, the decision should be consistent with similar situations that have been resolved in the past. Accurate and complete records of events, conversations and results which occur during this process must be kept.

In the event the employee, the employee's management and Industrial Relations cannot agree on a solution to the concern, the employee may submit the issue to the General Manager or the Manager, Administration for final resolution.

TYPES OF DISCIPLINARY ACTIONS

The type of action is determined by the Severity of the offense. In most cases, the following steps should be used:

Oral Warning. If, after counseling, and employee's conduct warrants an oral warning, the supervisor shall document the warning for his record only. It is the responsibility of the supervisor to make clear to the employee the following:

- The intent to discuss employee breach of standards
- The conduct giving rise to the warning
- Positive steps to be taken by the employee to avoid further management action.

Written Warning

An employee's immediate supervisor shall explain to the employee the conduct giving rise to the written warning and specify whether or not this is a repeat violation. The written warning will be on the Notice of Disciplinary Action, Form EG&G IR-6 (Attachment 1), and may be accompanied by any other written record.

Disciplinary 90-Day Review

When the employee's conduct has violated EG&G Policies, Rules of Conduct or Standard Practices and the employee is placed on a review for a period of ninety (90) days, known as a "90-Day Review," a copy of the Notice of Disciplinary Action form shall be completed. Once every thirty (30) days, the supervisor will meet with the employee and evaluate his performance. All reviews shall be documented.

Suspension

When an employee is suspended from work without pay or ineligible for other compensation, the employee shall be informed verbally and a Notice of Disciplinary Action form will be completed. The form shall document the suspension action and specify, in detail, the violation which led to the suspension.

Termination

Employees may be terminated for just cause and, when such action occurs, it shall be documented on the Notice of Disciplinary Action form. Termination cannot be implemented until reviewed with Industrial Relations.

Emergency Suspension

This type of suspension may be made pending further investigation when the employee's conduct or action presents a significant danger to the safety and welfare of others, may severely impact the department's operational status or appears to have violated rules of conduct to an extent possible necessitating termination.

CAUSES FOR ACTION

Commission of any of the following infractions will normally be considered grounds for immediate discharge:

- Failure to report Company or Government vehicle accidents promptly and properly.
- Theft, including the unauthorized use or removal of Company, Government or a fellow employee's property.
- Engaging in or fostering espionage, sabotage or other criminal activity.
- Selling, or offering for sale, narcotics or restricted, dangerous drugs.
- Refusing to take blood alcohol and/or alcohol breathalyzer test, or test results that reveal the person is intoxicated as substantiated by Virginia Law.
- Possessing, using, or being under the influence of narcotics or restricted, dangerous drugs on or when trying to enter Government or Company controlled property. This prohibition does not apply when such drugs are prescribed or administered by a licensed physician.
- Possessing, using, or being under the influence of alcohol on or when trying to enter Government or Company controlled property, during normal duty hours.
- Convictions of any felony offense. This rule does not apply when sentencing for the offense specifies adjudication of guilt is withheld.
- Failure to be granted an Unescorted Access Authorization (UAPRP) for ADP work areas when such is required, and/or secret clearance within 180 calendar days from the date of employment.
- Any of the following may be grounds for disciplinary action ranging from a warning or reprimand to discharge:

Conduct on the Premises

- Improper conduct on Government or Company controlled property.
- Fighting, practical jokes or horseplay.
- Using threatening, abusive or profane language.
- Gambling.
- Acceptance of anything of monetary value from any supplier, customer or other contractors or prospective contractors, or their representatives.
- Using, disseminating, or permitting the use of any privileged information acquired during employment with the Company or in the work for the Company's customers for personal gain or other improper use.
- Sleeping on the job.

- Insubordination.
- Falsification of operational data, Personnel Security Questionnaire forms or any other Company records.
- Repeated tardiness, unexcused absences, abuse of sick leave privileges, or failure to notify supervision promptly when unable to report to work.
- Leaving the plant or work assignment during working hours without prior supervisory permission.
- Outside employment or other outside activity not compatible with the full and proper discharge of the employee's position with the Company.
- Violation of Company-approved procedures for accomplishing work.

Acts of Discrimination or Sexual Harassment

- Acts of discrimination based upon race, creed, color, religion, sex, age, national origin, or disability.
- Sexual harassment.
- Acts of retaliation against an employee in connection with complaints of discrimination.

Safety Rules and Regulations

- Failure to observe rules and regulations.
- Disobeying safety rules or instructions given in the line of duty by LaRC Safety Officers, civil defense personnel, supervisors, or other proper authorities in emergencies.
- Failure to use provided safety equipment.
- Failure to report on-the-job injuries or accidents, or to follow instructions for treatment of injuries.
- Disobeying nonsmoking or noneating signs; smoking in posted nonsmoking areas.
- Reckless or negligent operation of Government or private vehicles on Government or Company controlled property or while on Company business.

Securing and Safeguards Regulations

- Violation of Security or Safeguards regulations.
- Disclosure of classified matter or information to unauthorized persons.
- Failure to observe the established regulations regarding the protection of such classified matter or information against accidental or deliberate disclosure to unauthorized persons.
- Lending, borrowing or altering a security identification device (badge).
- Unauthorized entry into restricted areas or allowing unauthorized individuals into restricted areas.

- Possessing firearms or other weapons, explosives, cameras, special viewing devices or radio transmitters on Government or Company controlled property without the proper permits.
- Convictions of misdemeanor offenses not compatible with the full and proper discharge of the employee's position with the Company.
- Refusal to permit the search of packages, lunch boxes, briefcases, purses, etc., upon request of authorized individuals.

Misuse and/or Misappropriation of Government Property and Funds

- Misuse or unauthorized use of Government or Company controlled property, material, equipment, funds, or other property including scrap or salvage.
- Misuse, loss, theft, or unauthorized modification of Company or Government computer systems, programs or data bases. This includes hardware, software, communications links and computer time.
- Working on unauthorized projects on Government or Company controlled premises.
- Performing any rework, repair, or modification on any materials or items without the proper authorization.
- Removal of Quality status stamps, tags or documents, and/or the use of any materials or parts that have been rejected by Quality.
- Using Company time for non-Company work.
- Using equipment, tools, stationery, or official vehicles for personal purposes.
- Misusing or abusing telecommunications equipment or services.
- Misappropriating materials, funds, or services by falsifying such documents as timecards, travel invoices, purchase orders, etc., or by any other direct or indirect means.

ABSENCE AND TARDINESS

Paid sick leave is an insurance policy to protect the employee's wages in case of an emergency. Sick leave should be used only for the intended purpose.

Since abuse of absenteeism or tardiness increases costs, creates an undue hardship on fellow employees and limits ability to effectively plan and accomplish goals, the following policies and guidelines have been developed to help reduce absenteeism and tardiness.

Supervision must understand and explain Company policies and procedures to their subordinates. Supervisors at every level will be responsible for maintaining attendance records for employees. Since inconsistency causes problems when counseling or disciplinary action is necessary, Industrial Relations will monitor actions to assure consistency.

In an effort to monitor absenteeism and tardiness, the following guidelines should be adhered to:

- Accurate records of all nonproductive time should be recorded for each employee.
- As soon as an employee returns to work from sick leave or tardiness, the supervisor should take a few minutes to informally speak to the employee.

- Deal with each absence immediately, whether or not the absence was expected.
- When an employee's record indicates that he is having a problem or might be abusing sick leave, it is time for a counseling session. In such circumstances, a written warning may be necessary.
- If disciplinary action is taken, it must be based upon detailed records.
- Absenteeism should be evaluated giving consideration towards the understanding of any sick leave due to unusual circumstances, such as major medical problems.
- If an employee has been out in excess of thirty (30) hours within a six (6) month period or if the employee's record shows a pattern of absence abuse, the employees should be considered for immediate counseling. Absenteeism due to major medical problems should be evaluated on a case-by-case basis.

PROGRESSIVE DISCIPLINE

Counseling

Whenever there is an irregularity in attendance, the supervisor should, prior to progressive discipline, meet with and counsel the employee as to his obligations. Listed below are the items to be discussed:

- The recent absences leading up to the counseling session.
- The Company's concern and willingness to help if there is a problem.
- Positive steps to be taken by the employee to preclude the need for future disciplinary action.
- Convince the employee that they do make a difference in their respective department, in that satisfactory attendance is one of their primary responsibilities.
- Explain to the employee how his absence can affect others when not at work, such as disruptions of work schedules, problems encountered by employee who fills in, etc.

Step 1- Oral Warning

When patterns of absence or tardiness begin to surface or when an employee approaches thirty (30) hours of absenteeism within a six (6) month period, an oral warning should be initiated and documented as a "Memo for Record." The minimum responsibilities of the immediate supervisor are as follows:

- The absenteeism record leading up the counseling. This should be completely up-to-date.
- The Company's concern and willingness to help if there is a bona fide problem.
- Positive steps to be taken by the employee to avoid further disciplinary action.
- Convince the employee that they do make a difference in their department and that satisfactory attendance is one of their primary responsibilities.
- Explain to the employee how his/her absence can affect others when not at work, such as disruptions of work schedules, problems encountered by employee who fills in, etc.

Step 2- Written Warning

When an employee fails to take the necessary action to correct his attendance following an oral warning, it may be necessary to issue a Notice of Disciplinary Action to substantiate formal counseling. Such action is designated as a written warning.

Step 3 - Written Warning with 90-Day Review Period

When an employee continues to be tardy or absent from the job, the employee may be placed on a review for a period of ninety (90) days, known as a "90-Day Review." The following information shall be contained in the Notice of Disciplinary Action form:

- Clear, concise, and explicit information explaining the terms of the 90-day period and the consequences that could result if the employee continues with lost time during this period. At this point, the employee should also be advised that the next step could be termination.
- Once every thirty (30) days, the supervisor will sit with the employee and evaluate his performance. Each evaluation shall be documented, and copies shall be sent to the employee and Industrial Relations (if the involved employee is represented by a bargaining unit) or Industrial Relations (if the involved employee is nonrepresented).

Step 4 - Termination

When an employee fails to correct his/her problem through whatever means necessary, the next step is termination.

NOTICE OF DISCIPLINARY ACTION FORM

The EG&G Notice of Disciplinary Action Form will be used to document all formal disciplinary actions.

Explanation of the form items:

- **Nature of Charge.** Use a short title for the offense, (i.e., excessive tardiness, neglect of duty, possession of intoxicating liquor, etc.).
- **Detailed Description of Offense.** Record the specific facts supporting the charge. Details must be factual, objectively stated, and supportable under scrutiny.
- **Adverse Effect on the Safety or Welfare of Others.** Will be indicated when, for example, fighting or negligent horseplay.
- **Adverse Effect on the Performance of Required Work.** Will be indicated when, for example, there is excessive absenteeism or tardiness.
- **Comments.** May be used to further explain to an employee the effect or severity of the offense.

APPROVAL CYCLE

The initiation of a Notice of Disciplinary Action form is the responsibility of the employee's immediate supervisor. Before disciplinary actions are placed into effect, the manager requesting such action shall communicate with and obtain the concurrence signature of the Manager, Industrial Relations, and the appropriate Branch Manager/Manager or his designee. All terminations or suspensions shall be discussed with the Manager, Industrial Relations, and any notice documenting the termination of any employee will require the signature of the Manager, Industrial Relations.

The highest level for concurrence of written warnings, probation and suspension actions is the appropriate Supervisor and the Administrative Manager or his designee. Once the concurrence cycle has been completed, the parties indicated on the bottom of each form shall receive appropriate copies. All terminations or suspensions shall first be discussed with the "Manager, Industrial Relations," or his designee, and any notice documenting the termination of an employee will require the signature of the Manager, Industrial Relations. Employees being considered for this type of action may be placed on emergency suspension pending approval of planned actions.

Before written warnings, probations, suspensions or terminations are placed into effect, the Supervisor requesting such action shall communicate with the Manager, Industrial Relations, or his designee, to discuss such action prior to implementation.

ADMINISTRATION OF POLICY

A progressive sequence of disciplinary action is to be taken based upon the severity of an offense. The least severe offenses result in oral warnings; the most severe offenses result in terminations.

If and when an employee is placed on a "90-Day Review," his/her conduct or performance becomes critical to continued employment. Any additional violations during this period will result in more serious disciplinary action, regardless of the fact that the additional violation itself may not mandate a suspension or termination. Such judgments are necessary for successful application of the disciplinary policy. It is of the utmost importance that disciplinary actions not only be justified, but also that they are administered in an even-handed fashion, which treats equally all who have committed the same type of offense. Employees on a "90-Day Review" shall have their conduct and performance evaluated by their immediate supervisor not less than once every thirty (30) days during said period.

Each evaluation shall be documented with copies sent to the employee and the Manager, Industrial Relations.

Applicable provisions of collective bargaining agreements are not altered by this procedure.

The chart below, although not absolute or exhaustive, shows some causes that may justify disciplinary action. It also indicates the type of counseling and severity of action that could be taken based upon the frequency, facts and severity of the offense. These guidelines should be adhered to as closely as possible.

| <u>Incident</u> | <u>Oral Warn</u> | <u>Written Warn</u> | <u>90-Day Review</u> | <u>Susp.</u> | <u>Term.</u> |
|---|-----------------------------|--------------------------------|---------------------------------|---------------------|---------------------|
| Harm to Person or Property | | | | | First |
| Sleeping on the Job | | | | | First |
| Falsifying Information | | | | | First |
| Theft | | | | | First |
| Drugs & Intoxicants | | | | | First |
| Insubordination | | | | | First |
| Espionage, Sabotage or Criminal Activity | | | | | First |
| Improper Conduct | | | | First | |

Second

Safety Infractions
Second

First

Security Infraction
Second

First

Excessive Absence/
Tardiness

First

Second

Third

Fourth

**MEMORANDUM
OF
UNDERSTANDING**

EG&G Langley, Inc. and IBEW Local 1340 agree to amend the Maintenance Collective Bargaining Agreement (CBA) between the parties to add the following classifications and rates of pay.

| | |
|------------------------|---------|
| Calibration Mechanic A | \$16.22 |
| Calibration Mechanic B | \$15.34 |

These classifications will receive the benefits as stated in the CBA. These new classifications will be co-located and expected to interface and cross train with the current Relay Calibration Maintenance Electricians.

AGREED TO:

EG&G Langley, Inc.

IBEW Local 1340

Lester W. Jordan, Manager
Industrial Relations

Richard Adams, Business Manager
IBEW Local 1340

DATE: _____

Raymond Tucker, Chief Steward
IBEW Local 1340

MEMORANDUM OF UNDERSTANDING

Between EG&G Langley
and
IBEW Local 1340

The purpose of this memorandum is to establish a rate of pay for the high voltage, maintenance electrician classification and to set seniority guidelines for the Electrical Job Family.

All of the classifications listed below will be considered one Job Family. The Electrical Job Family will consist of two different job classifications but will continue to have one seniority list. The High Voltage Maintenance Electricians will have their own job classifications due to the specialized skills required in that area. Listed below is a new rate and details for the Electrician, Maintenance High Voltage classification. All other provisions of the collective bargaining agreement will remain in effect and apply to the new classification.

Electrician, Maintenance
Electrician, Maintenance High Voltage *

* Rate = \$1.50 above Electrician, Maintenance

The Electrician, Maintenance High Voltage is expected to be on call at all times for customer and company needs. At least one employee in the department will be expected to carry a pager at all times and respond to any calls they may receive on behalf of the company or customer. Pay for on-call duty is included in to the hourly rate and no further compensation will be made.

Maintenance Electricians shall be used, at the Company's discretion, as standby to work with the current high voltage, maintenance electricians. Upon becoming certified at 115KV or more an electrician working within the classification of high voltage will be compensated at the appropriate rate.

Agreed to:

Lester W. Jordan, Manager
Industrial Relations

Richard Adams, Business Manager
IBEW Local 1340

Date

Raymond Tucker, Chief Steward
IBEW Local 1340

EXHIBIT F

POWER DISPATCHER DUTIES AND LOAD SHEDDING GUIDE

POWER DISPATCHER DUTIES

1. Knowledge of the Virginia Power /LaRC electric power contract is required to understand and carry out the function of Power Dispatcher at LaRC. A full understanding is desired, but at a minimum, the dispatcher must know that **“ON PEAK”** describes the time period from 7:00 AM to 10:00 PM and **“OFF PEAK”** consists of the rest of the 24 hour period and weekends. During on peak hours, the contract provides 40 megawatts fixed demand and 205 megawatts excess on peak. The contract provides for 245 megawatts off peak. The excess power is conditional. “Condition 1” allows full use described above and is considered normal. “Condition 2” provides **EXCESS** power at a premium cost. (Research Head must agree to fund the added cost if the facility is to continue running). “Condition 3” curtails all excess power. If it occurs during on peak, LaRC must limit its power usage to 40 megawatts or less within 10 minutes. If this level is not reached, LaRC incurs a large penalty.

The power dispatcher is expected to discretely question the **CONDITION** call to insure that a real limitation of power exists. (Virginia Power is not to call these curtailments if they have reserve capacity to generate or if they can acquire power from other producers on the grid). Often the limitation of power can be avoided if we are only running at a high level for a short period of time. Close communication with Virginia Power will insure that power curtailments are minimal. When it is certain that a condition exists it is imperative that we respond immediately.

The power dispatcher shall record all calls from research facilities, to include facility name, amount of power requested, beginning and ending time of operation. The record will enable the power dispatcher to keep a record of power dispatched to the research facilities and will insure LaRC operates within the parameters set forth in the Virginia Power Contract. The power dispatcher will periodically transfer the data stored on the computer acquiring data from Bldg. 1233 to a back up medium. The transfer will allow the continued storage of data of the Bldg. 1233 parameters. The power dispatcher will maintain a log of all communications with the Virginia Power Dispatcher.

2. The following section details the responsibilities of the power dispatcher during Condition 2 periods. Review the attached document entitled Electrical Load Shedding for definitions of Conditions 1, 2, and 3. Whenever a call from the Virginia Power Systems Dispatcher is received indicating the need for LaRC to be placed on Condition 2, the power dispatcher shall record on the attached Excess Power Condition 2 form all of the required information. The tunnels currently on line shall be contacted and informed of the change in operating conditions and costs. The Research Head may decide to continue operation at the greater costs, if so then the tunnel information section of the form needs to be completed including having the facility personnel read their KWH meters to supply the power dispatcher with the beginning and ending meter data during the period operating under Condition 2. The meters and locations are listed for the following major facilities:

| <u>Facility</u> | <u>Meter Number</u> | <u>Location</u> |
|-----------------|--------------------------|-----------------|
| Bldg. 1146 | Meter 42 | Bldg. 1241 |
| Bldg. 1146 ARS | Meter 43 | Bldg. 1241 |
| Bldg. 1236 | On Dispatcher's Computer | Bldg. 1241 |
| Bldg. 648 | Meters 74 and 75 | Bldg. 648 |
| Bldg. 1251 | Meters 18 and 19 | Bldg. 1251 |
| Bldg. 1251A | Meters 20 and 21 | Bldg. 1251A |
| Bldg. 1212C | Meters 177 and 185 | Bldg. 1212C |
| Bldg. 643 | Meters 77 and 78 | Bldg. 643 |

3. To review power dispatcher responsibilities during Condition 3, review attached document entitled Electrical Load Shedding.
4. Knowledge of the LaRC power distribution system and emergency switching procedures is required to insure that the dispatcher can perform duty functions with full knowledge of the expected outcome. The power distribution system at LaRC is a complex assembly of transformers, breakers, switchgear, cables, protective relays, metering, and regulating devices operating at voltages from 115,000 volts to 208/110 volts. Through 15 major substations, 85 unit subs, 22 inside subs, electrical power is provided to approximately 150 buildings. There are many intricate ways designed in the system to back feed power as well as to feed power from more than one source to a particular facility. The Dispatcher must maintain an awareness of the power limitations of components to insure that circuit breaker trips are minimal. The above is a very generalized description of the distribution system. A more detailed knowledge is required and must be gained from the one line power diagrams.

The emergency switching procedures that dispatchers are likely to be required to make are generally limited to those trip devices located within Bldg. 1233 control room. An **EMERGENCY SWITCHING BOARD** is mounted in the control room. It lists all of the LaRC building and the switches that will disconnect power to them. The list also gives the switch numbers that disconnects power to the Air Force and Bethel Reservoir. The proper switches on switch gear 1 and 3 have engraved yellow tags near the switch handle. These tags are numbered to coincide with the numbers on the emergency board. A 4"x10" tag may be hanging from the handle to give additional information if a different feeder is providing temporary power to a facility. If this occurs follow the given direction. To disconnect power, turn the proper breaker handle fully counter clockwise to the trip position.
*** Exercise extreme caution when receiving a call to disconnect power to buildings. Follow the same instruction that is posted for duty officers to insure that the disconnect is properly authorized.

5. Knowledge of high voltage work practices and procedures allow the dispatcher to envision work efforts and anticipate when power will be restored after outages for maintenance and repair. This is required to insure full communications with research facilities.
6. Dispatchers require a knowledge of the normal operating loads on various power feeder cables and transformers. If any readings vary they are to question the change. Certain feeders and transformers feed more than one research function. If more than one facility attempts to utilize them their ratings will be exceeded. The dispatcher must in this case intercede to insure that only one facility uses the power.
7. Knowledge of the metering system is required to record the power being utilized by various facilities and to be determine if a requesting facility can go on line.
8. Knowledge of correcting the power factor with various capacitor banks and synchronous condensers. Reactive power should be regulated as close to unity as possible for efficient power utilization. The high inductive load at LaRC is corrected by utilizing capacitor banks at Bldg. 1243. Building 1239 also has capacitor banks. Unitary (Bldg. 1251) and 16-Ft. TDT (Bldg. 648) both have the capability to run synchronous condensers to help regulate the power factor when the Bldg. 1243 capacitors are unavailable. Once the RKVA reading for any 30 minute period reaches a new high, that is the reactive power level for the whole month and LaRC

is billed accordingly. Control of the capacitor banks at Bldg. 1243 is in Bldgs. 1233 and 1241. The dispatcher must request that synchronous condensers be run.

9. The ability to assess and record various readings in a timely and accurate manner while making judgements in allocation power to users often under close tolerances when approaching total available power is required. Required readings are: each large power user--10 minute intervals; power demand meter stamped total--15 minute intervals (average two readings to establish 30 minute demand--30 minute intervals; instantaneous KW, RKVA, and transformer temperature readings--30 minute intervals.
10. The ability to respond to emergency conditions in a logical controlled manner is of major importance both from a life safety as well as contract compliance viewpoints. The mental attitude, the displayed technical competence, and the physical capability to respond are mandatory and are continually assessed by management and fellow workers. Lack of this ability is just cause for temporary or permanent removal from the dispatching function as well as from any other duties involving high voltage work.
11. To provide the most efficient utilization of available electrical power, the dispatcher must develop, maintain, and apply knowledge of the various power consumption profiles of the major research facilities. Making power available to the highest number of requesting users is contingent upon full development of this capability.
12. On the last working day of each month the electrical power dispatcher will collect KWH data, run time hours and Job Orders utilized for operations for the large research facilities. A report will be submitted to the COTR within ten days that contains the collected information. The research facilities and their associated KWH meters are detailed below:

| Facility | Meter Number |
|----------------------------------|---|
| Building 1146 (16 Ft.) | 42 |
| Building 1146A (ARS) | 43 |
| Building 648 (TDT) | 74, 75 |
| Building 1251 (Unitary) | 18, 19 |
| Building 1251A (31In., Mach 10) | 20, 21 |
| Building 1212C (14 X 22) | 177, 185 |
| Building 1236 (NTF) | Data taken off of the Power Dispatcher's Computer |

An attached report is included as a reference. All data included on the attached report shall be included in the report to the COTR.

13. All dispatchers must read a copy of the Virginia Power/LaRC contract and the statement of dispatcher duties each six months and sign a document attesting that the contents are understood.

DEFINITION OF CONDITIONS ONE, TWO, AND THREE

The current electrical power service contract (LaRC L-37237C) entered between NASA/Langley Research Center and Virginia Power defines the following conditions of power and defines the following conditions of power available to LaRC:

- A) **CONDITION ONE** is defined as being those times when excess (interruptible) power is available to the customer without restriction.
- B) **CONDITION TWO** is defined as being those times when (a) the Company has called for the interruption of the use of power as described in Condition One, (b) at the time of the request for interruption, the Government has requested that continued operation be allowed and (c) the Company has agreed to such continued usage. In such case, the charge for such power shall be the kWh charge for Condition Two, which will continue in effect until the load has been interrupted and the Company so notified.
- C) **CONDITION THREE** - If the Company is approaching a load curtailment condition and the Company does not agree to the continued usage of excess (interruptible) power and insists on the interruption, that usage is not interrupted within 10 minutes, the charge for any power used in excess of 40,000 kW shall be \$10/kW and a charge per kWhr at the Condition Three rate.

Condition Three can occur in times of high demand (extreme heat or cold), when Virginia Power has major equipment problems, or when the supplier has unfavorable conditions in its attempts to purchase additional power for outside sources.

RESPONSE OF LaRC POWER DISPATCHER

Upon receiving notification of Condition Three Status from the Virginia Power Dispatcher, the LaRC Power Dispatcher records the following information.

- 1) Time of Call
- 2) Time of Cancellation
- 3) Name of Virginia Power Dispatcher

- 4) Name of LaRC Power Dispatcher
- 5) Reason for cancellation
- 6) Meter reading at beginning of cancellation (LaRC total kWh)

The LaRC Power Dispatcher initiates the following steps until the baseline power load is below 40MW, and will remain there until Condition Three is canceled. Step 1, 2, and 3 shall be completed and then the LaRC load can be evaluated to determine if it is at or below will remain under 40MW. If the load is still above 40MW precede with Steps 4, 5, and 6.

- 1) Notifies all on-line major tunnels of Condition Three Status. Bring Tunnels/Facilities down and off the line immediately. Shutdown all unnecessary loads. Tunnels/Facilities considered major are:
 - A) Unitary (B-1251)
 - B) National Transonic Facility (B-1236)
 - C) 16-Foot Transonic Tunnel (B-1146) Drive Control (B-1241)
 - D) 14 x 22 V/STOL (B-1212C)
 - E) Transonic Dynamics Tunnel (B-648)
 - F) Scramjet Facility (B-1247)
 - G) 30' X 60' Full Scale Tunnel
- 2) Notifies Compressor Station (B-1247E) of Condition Three Status - unload compressors and bring down and off immediately.
- 3) Notifies all minor on-line Tunnels/Facilities of Condition Three Status. Bring tunnels down and off immediately. Shutdown all unnecessary loads. Tunnels/Facilities considered minor are:
 - A) Spin Tunnel (B-645)
 - B) LTPT (B-582)
 - C) 12-Foot Free Flight (B-644)
 - D) 0.3 Meter Cryo Tunnel (B-1242)
 - E) 31 Inch - Mach 10 Facility (B-1251A)

- F) 8-Foot High Temperature Tunnel (B-1265)
- 4) Notifies the first CES Electrical Section (U.S. Air Force, L.A.F.B. - Telephone 764-5782 or 764-1157) of Condition Three Status so they will initiate their plan for power reduction.
- 5) Notifies the Utility Control System (UCS B-1215) to initiate computerized and radio load shedding mode.
- 6) If baseline power limit is still above 40MW, notify the following facilities by telephone through the Facility Coordinator. Request that all unnecessary electrical loads (including lighting) be shed. These facilities are:
 - A) Navy Tank (B-720).
 - B) Advanced Technology Research Lab (B-1200).
 - C) Drive Control (B-1241).
 - D) Gas Dynamics (B-1247B).
 - E) Aircraft Landing Dynamics Facility (B-1258).
 - F) CF4 Tunnel/Jet Simulator (B-1295).
 - G) Structural Materials Research Lab. (B-1293).
 - H) 60-Foot Vacuum Sphere (B-1295).

When Virginia Power cancels the Condition Three Status and restores the excess (Interruptible) power, the LaRC Power Dispatcher will record the time, name of Virginia Power Dispatcher, and meter readings.

PROCEDURES FOR
MAJOR TUNNELS/FACILITIES

- 1) Shutdown of Tunnels/Facilities will begin immediately after notification of Condition Three status by LaRC Power Dispatcher.
- 2) Shutdown will be done in accordance with Standard Operating Procedures and existing practices.

UNITARY WIND TUNNEL (B-1251)

- 1) Graphic control panel operator immediately notifies main drive operator and the data room that he is coming off the line fast.
- 2) When accelerated pump-down is obtained and flow in test section is dropped, the main drive operator shuts down the main drive.
- 3) The graphic control panel operator shuts down the following equipment at this time:
 - A) Worthington vacuum pumps #1 and #2.
 - B) Ingersoll Rand vacuum pumps P1 and P2.
 - C) Beach Russ vacuum pumps-"block" and "tunnel leg".
 - D) Cooler water pumps (all).
 - E) Cooling tower fans (all).
 - F) Set Make-up Air Compressor controls to manual.
- 4) The equipment operator shuts down the following equipment at this time:
 - A) Make-up Air Compressor
 - B) 300 P.S.I. (Seal Air Compressor)
 - C) Selas dryer
 - D) Service Water "A", "B", and "C"
 - E) Hydraulic System
- 5) When main drive is at rest, the main drive operator will shut down lube and lube and lift pumps.
 - A) Main drive turning gear time and graphic control panel setups will be obtained when Condition Three Power has ended, or when LaRC Power Dispatcher advises power is available.
- 6) Test Sections I and II operator shuts down the following equipment at this time:
 - A) All test section drive motors which are running
 - B) Package air conditioning units (2)
- 7) Turn off excess lighting in B-1251.

NATIONAL TRANSONIC FACILITY (B-1236)

- 1) NTF Tunnel Operator relays to Drive Control (B-1241) that Condition Three is being initiated.
- 2) NTF systems operator will immediately unload inlet guide vanes, start venting tunnel pressure to 20 psia, and bring tunnel drive motors MI, MII, and Sync. MTR down and off the line. Advise Drive Control to secure their equipment.
- 3) Shut down IGV hydraulic systems when inlet guide vanes are at fail-safe position and fan shaft RPM is below 100.
- 4) Shut down Pitch Hydraulic System off when Pitch Pin is in locked position.
- 5) Shut down Misc. Hydraulic System when tunnel is vented to 20 psia and LN2 torous ring is vented back to the tank.
- 6) Shutdown MI-MII oil systems when fan shaft reaches zero RPM and 10 minute cool down timer elapses.
- 7) WHEN IN AIR MODE - Shut down fan bearing oil system and drain oil back to tank when shaft reaches zero RPM and 10 minute cool down timer elapses.
WHEN IN LN2 MODE - go to overnight cold procedures when shaft reaches zero rpm and 10 minute cool down timer elapses.
- 8) Shut down cooling coil pumps when fan shaft reaches zero RPM.
- 9) Shut down Liquid Rheostat pump when fan shaft reaches zero RPM and electrolyte temperature is less than 100 degrees F.
- 10) Turn off excess lighting in B-1236.

DRIVE CONTROL (B-1241)

- 1) Turn off A/C Unit in Room 203.
- 2) Turn off equipment heaters.
- 3) Turn off excess lighting.

16-FOOT TRANSONIC TUNNEL (B-1246)

- 1) Tunnel Operator relays to Drive Control (B-1241) that Condition Three is being initiated.
 - A) If Air Removal System (A.R.S. - B-1146A) is in operation the Tunnel Operator will close the 10 Ft. valve and request Drive Control to bring A.R.S. down and off.
 - B) Bring tunnel down and off. Advise Drive Control to secure their equipment.
 - C) Secure hydraulic systems for A.R.S., strut drive, and high pressure air system.
- 2) Turn off A/C unit and water pump in Rm. 118.
- 3) Turn off A/C unit in Jet Exit Test Bay (B-1234).
- 4) Turn off equipment heaters for A.R.S. motor (B-1146A).
- 5) Secure water tunnel operation (B-1234).
- 6) Turn off excess lighting in B-1146, B-1146A, and B-1234.

14 X 22 FOOT TUNNEL (B-1212C)

- 1) Bring tunnel down and off.
 - A) Bring Boundary Layer Motor down and off if being used.
 - B) Safely secure model power (240KVA M.G. Set) if being used.
 - C) Auxiliaries shut down automatically.
- 2) Shut down Variable Frequency Model Power used to operate LVART Tunnel (and auxiliaries) if being used.
- 3) Turn off air handlers for model prep area and test chamber (MCC #3, Rm. 105).
- 4) Turn off air handlers and water pumps for Rotor Test Cell, shop, and New Model Prep Area (MCC #5 Rm. 301).
- 5) Turn off excess lighting in B-1212C.

TRANSONIC DYNAMICS TUNNEL (B-648)

- 1) Tunnel Operator relays to Electrical Equipment Operator and Graphic Control Panel Operator that Condition Three is being initiated.
- 2) Tunnel Operator brings drive down and off.
- 3) Electrical Equipment Operator turns off the Synchronous Condenser.
- 4) Graphic Control Panel Operator turns off the following equipment.
 - A) 8500 CFM Clark Compressor.
 - B) A, B, and C Reed Compressors.
 - C) F-22 System Booster Compressor.
 - D) All Dryer Heater Elements.
 - E) 2000 GPM Water Pump.
 - F) 3000 GPM Water Pump.
 - G) A/C units in Rooms 211 and 309.
- 5) Turn off excess lighting in B-648.

30 X 60 FOOT TUNNEL (B-643)

- 1) Tunnel Operator brings tunnel drive down and off.
- 2) Turn off excess lighting in B-643.

SCRAMJET FACILITY (B-1247B)

The Scramjet Facility is considered a major facility in the context of this presentation due to its capacity to instantaneously initiate a 12 to 18 MW load for a short period of time.

- 1) Inform Converter Station Operator (B-1235) of Condition Three Status and request Variable Frequency Power Supply sets be brought down and off.
- 2) Turn off excess lighting.

PROCEDURES FOR
MINOR TUNNELS/FACILITIES

- 1) Shut down of Tunnels/Facilities will begin immediately after notification of Condition Three Status by LaRC Power Dispatcher.
- 2) Shut down will be done in accordance with Standard Operating Procedures and existing practices.

SPIN TUNNEL (B-645)

- 1) Bring tunnel down and off.
- 2) Shut down M.G. Set.
- 3) Turn off excess lighting in B-645.

12-FOOT FREE FLIGHT TUNNEL (B-644)

- 1) Bring tunnel down and off.
- 2) Shut down M.G. Set.
- 3) If Joy Compressor (b-646) is being used, notify Air Dispatcher to bring down and off.
- 4) Turn off excess lighting in B-644.

L.T.P.T. (B-582)

- 1) Safely secure air pressurization of tunnel. If Joy Compressor (B-646) is being used, notify Air Dispatcher to bring down and off. If Worthington Compressor is being used, bring down and off.
- 2) Return model to 0 deg.
- 3) Bring tunnel drive down and off - Bring M.G. Set down and off.
- 4) Shut down Cooling Coil Water Pump.
- 5) Turn off excess lighting in B-582.

0.3 METER CRYOGENIC TUNNEL (B-1242)

This facility is electrically supplied through the Frequency Converter Station (B-1235). The operator there will notify the Cryogenic Tunnel Operator of the Condition Three Status.

- 1) Bring tunnel down and off.
 - A) Bring boundary layer control (BLC) motor off line first if in operation.
- 2) Secure LN2 Pumps.
- 3) Turn off A/C unit in test section area.
- 4) Turn off excess lighting in B-1242.

31 INCH MACH 10 FACILITY (B-1251A)

- 1) Turn off No. 1 and 3 heaters.
- 2) Turn off No. 6, 6A, 7A, 7B, 8A, 8B, and 9 water pumps.
- 3) Turn off No. 1 thru 4 vacuum pumps.
- 4) Turn off (2) Precipitrons.
- 5) Turn off auxiliary hydraulic systems.
- 6) Turn off VP-1 thru VP-4 vacuum pumps (B-1295) if in use.
- 7) Turn off excess lighting.

OTHER FACILITIES**POWER SHEDDING CAPABLE****NAVY TANK (B-720)**

- 1) Turn off Carriage Power M.G. Set.
- 2) Turn off filling/draining water pump.
- 3) Turn off excess lighting.

BASIC AERODYNAMICS RESEARCH TUNNEL B-720A)

- 1) Turn off A.C. Drive Motor.
- 2) Turn off excess lighting

ADVANCED TECHNOLOGY RESEARCH LAB (B-1200).

- 1) Turn off Solar Simulators (2).
- 2) Turn off excess lighting.

DRIVE CONTROL (B-1241)

- 1) Turn off A/C Unit in Room 203.
- 2) Turn off equipment heaters.
- 3) Turn off excess lighting.

GAS DYNAMICS (B-1247B)

- 1) Turn off Helium heaters for 22 Inch Hypersonic and Jet Let Tunnels.
- 2) Turn off Nitrogen heaters for Mach 19 Hypersonic Nitrogen Tunnel.
- 3) Turn off vacuum pumps and hydraulic pumps for Mach 20 Tunnel.
- 4) Turn off power supply for 15 Inch Low Turbulence Tunnel.
- 5) Turn off 2' X 3' Boundary Layer Channel Tunnel.
- 6) Turn off M.G. Set for 7" X 11" Low Speed Tunnel.
- 7) Turn off excess lighting.

AIRCRAFT LANDING DYNAMICS FACILITY (B-1258)

- 1) Turn off water pump.
- 2) Secure from use Arresting System Rewind Motors.
- 3) Turn off excess lighting.

CF4 TUNNEL/JET SIMULATOR (B-1275)

- 1) Turn off Beech Russ Vacuum Pumps.
- 2) Turn off Stokes pump.
- 3) Turn off Corblin compressor.
- 4) Turn off Lead bathes.
- 5) Turn off unclosed water pump.
- 6) Turn off Roots vacuum blowers.
- 7) Turn off Leybold-Heraeus Blower.
- 8) Turn off Lincoln Hydraulic pump.
- 9) Turn off excess lighting.

STRUCTURAL MATERIALS RESEARCH LAB (B-1293)

- 1) Turn off (3) centrifuge pumps.
- 2) Turn off high pressure oil system.
- 3) Turn off (4) Stokes vacuum pumps.
- 4) Turn off #1 and #2 Roots blowers.
- 5) Turn off excess lighting.

(Due to the long term tests being conducted in the following equipment, three units should not be turned off unless under extreme conditions).

- 6) Autoclave.
- 7) Various furnaces/ovens.

60-FOOT VACUUM SPHERE (B-1295)

- 1) Turn off #1 through #4 vacuum pumps.
- 2) Turn off #1 through #4 diffusion.
- 3) Turn off (3) precipitrons.
- 4) Turn off (2) Beech Russ vacuum pumps.
- 5) Turn off (2) Roots blowers.
- 6) Do not turn on flood lamps.
- 7) Turn off excess lighting.

EXHIBIT G

SCHEDULE FOR CALIBRATION OF THE O₂ MONITORING SYSTEMS

EXHIBIT G

Schedule for Calibration of Sensors and Verification of Systems Performance for Oxygen
Monitoring Systems

| <u>ITEM</u> | <u>LOCATION</u> | <u>Calibration Interval</u> | <u>Functional Verification</u> |
|------------------------------------|----------------------|---------------------------------|------------------------------------|
| 18 Hand Held Sensors | NTF | Semi Annual | Weekly |
| 8 Fixed Sensor Stations | NTF | Semi Annual | Daily |
| 2 FIXED SENSOR Stations | TDT | SEMI ANNUAL | N.A. |
| Cell Monitoring Unit (35 Cells) | NTF | N.A. | Daily |
| Cell Monitoring Unit (20 Cells) | 0.3 M Cryo Tunnel | N.A. | Daily |

PART IV - REPRESENTATIONS AND INSTRUCTIONS

SECTION K - REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS

K.1 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (FAR 52.203-11) (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 offeror, 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 offeror 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 subcontracts 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.

K.2 TAXPAYER IDENTIFICATION (FAR 52.204-3) (JUN 1997)

(a) Definitions.

"Common parent," as used in this solicitation provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

"Corporate status," as used in this solicitation provision, means a designation as to whether the offeror is a corporate entity, an unincorporated entity (e.g., sole proprietorship or partnership), or a corporation providing medical and health care services.

"Taxpayer Identification Number (TIN)," as used in this solicitation provision, means the number required by the IRS to be used by the offeror in reporting income tax and other returns.

(b) All offerors are required to submit the information required in paragraphs (c) through (e) of this solicitation provision in order to comply with reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M and implementing regulations issued by the Internal Revenue Service (IRS). If the resulting contract is subject to the reporting requirements described in FAR 4.903, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) Taxpayer Identification Number (TIN).

TIN: _____.

TIN has been applied for.

TIN is not required because:

Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the U.S. and does not have an office or place of business or a fiscal paying agent in the U.S.;

Offeror is an agency or instrumentality of a foreign government;

Offeror is an agency or instrumentality of a Federal, state, or local government;

Other. State basis. _____

(d) Corporate Status.

Corporation providing medical and health care services, or engaged in the billing and collecting of payments for such services;

Other corporate entity;

Not a corporate entity:

Sole proprietorship

Partnership

Hospital or extended care facility described in 26 CFR 501(c)(3) that is exempt from taxation under 26 CFR 501(a).

(e) Common Parent.

Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

Name and TIN of common parent:

Name _____

TIN _____

K.3 WOMEN-OWNED BUSINESS (FAR 52.204-5) (OCT 1995)

(a) *Representation.* The offeror represents that it [] is, [] is not a women-owned business concern.

(b) *Definition.* "Women-owned business concern," as used in this provision, means a concern which 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 whose management and daily business operations are controlled by one or more women.

K.4 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (FAR 52.209-5) (MAR 1996)

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

(i) The Offeror 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 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

(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 subdivision (a)(1)(i)(B) of this provision.

(ii) The Offeror 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 Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror 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 Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(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 an Offeror 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 Offeror 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.

K.5 TYPE OF BUSINESS ORGANIZATION (FAR 52.215-4) (OCT 1997)

The offeror or respondent, by checking the applicable box, represents that--

(a) It operates as an individual, a partnership, a nonprofit organization, a joint venture, or a corporation incorporated under the laws of the State of _____.

(b) If the offeror or respondent is a foreign entity, it operates as an individual, a partnership, a nonprofit organization, a joint venture, or a corporation, registered for business in _____(country).

K.6 SMALL BUSINESS PROGRAM REPRESENTATIONS (FAR 52.219-1) (OCT 1998)

(a)(1) The standard industrial classification (SIC) code for this acquisition is _____ (insert SIC code).

(2) The small business size standard is _____ (insert SIC 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 offeror represents as part of its offer that it is: a small business concern, not a small business concern.

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

(c) Definitions.

"Joint venture," for purposes of a small disadvantaged business (SDB) set-aside or price evaluation preference (as prescribed at 13 CFR 124.321), is a concern that is owned and controlled by one or more socially and economically disadvantaged individuals entering into a joint venture agreement with one or more business concerns and is considered to be affiliated for size purposes with such other concern(s). The combined annual receipts or employees of the concerns entering into the joint venture must meet the applicable size standard corresponding to the SIC code designated for the contract. The majority of the venture's earnings must accrue directly to the socially and economically disadvantaged

individuals in the SDB concern(s) in the joint venture. The percentage of the ownership involvement in a joint venture by disadvantaged individuals must be at least 51 percent.

"Small business concern," as used in this provision, 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 size standard in Paragraph (a) of this provision.

"Small disadvantaged business concern," as used in this provision, means a small business concern that (1) is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals, and (2) has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more of these entities, which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization, and which meets the requirements of 13 CFR Part 124.

"Woman-owned small business concern," as used in this provision, means a small business concern--

(1) Which 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 business concern in order to obtain a contract to be awarded under the preference programs established pursuant to sections 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 a 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.

K.7 SMALL DISADVANTAGED BUSINESS STATUS (FAR 52.219-22) (OCT 1998)

(a) General. This provision is used to assess an offeror'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 offeror 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 listed, on the date of this representation, on the register of small disadvantaged business concerns maintained by the Small Business Administration; 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 offeror 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 offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: _____.]

(c) Penalties and Remedies. Anyone who misrepresents any aspects of the 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.

IMPORTANT NOTE: See Section I Clause 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business (SDB) Concerns (OCT 1998). Those SDB concerns electing to waive the adjustment must check paragraph (c) of the clause.

K.8 CERTIFICATION OF NONSEGREGATED FACILITIES (FAR 52.222-21) (APR 1984) (DEVIATION)

(a) "Segregated facilities", as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(b) By the submission of this offer, the offeror certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The offeror agrees that a breach of this certification is a violation of the Equal Opportunity clause in the contract.

K.9 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FAR 52.222-22)(APR 1984)

The offeror represents that -

- (a) It has, has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114;
- (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.

K.10 AFFIRMATIVE ACTION COMPLIANCE (FAR 52.222-25) (APR 1984)

The offeror 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.

K.11 CLEAN AIR AND WATER CERTIFICATION (FAR 52.223-1) (APR 1984)

The offeror certifies that -

- (a) Any facility to be used in the performance of this proposed contract () is, () is not, listed on the Environmental Protection Agency List of Violating Facilities;

(b) The offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the offeror proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and

(c) The offeror will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

**K.12 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (FAR 52.223-13)
(OCT 1996)**

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the offeror certifies that—

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

(i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

(ii) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

(iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(iv) The facility does not fall within Standard Industrial Classification Code (SIC) designations 20 through 39 as set forth in section 19.102 of the Federal Acquisition Regulation; or

(v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

K.13 BUY AMERICAN CERTIFICATE (FAR 52.225-1) (DEC 1989)

The offeror certifies that each end product, except those listed below, is a domestic end product (as defined in the clause entitled "Buy American Act - Supplies"), and that components of unknown origin are considered to have been mined, produced, or manufactured outside the United States.

Excluded End Products

Country of Origin

(List as necessary)

Offerors may obtain from the Contracting Officer lists of articles, materials, and supplies excepted from the Buy American Act.

K.14 COST ACCOUNTING STANDARDS NOTICES AND CERTIFICATION (FAR 52.230-1) (APR 1998)

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.

Offerors 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 offeror is an educational institution, Part II does not apply unless the contemplated contract will be subject to full or modified CAS coverage pursuant to 48 CFR 9903.201-2(c)(5) or 9903.201-2(c)(6), respectively.

I. DISCLOSURE STATEMENT--COST ACCOUNTING PRACTICES AND CERTIFICATION

(a) Any contract in excess of \$500,000 resulting from this solicitation will be subject to the requirements of the Cost Accounting Standards Board (48 CFR Chapter 99), except for those contracts which are exempt as specified in 48 CFR 9903.201-1.

(b) Any offeror 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 9903.202. When required, the Disclosure Statement must be submitted as a part of the offeror's proposal under this solicitation unless the offeror 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 offeror 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 offeror 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 No. CASB DS-1 or CASB DS-2, as applicable. Forms may be obtained from the cognizant ACO or Federal official and/or from 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 offeror further certifies that the 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 offeror hereby certifies that the required Disclosure Statement was filed as follows:

Date of Disclosure Statement: _____

Name and Address of Cognizant ACO or Federal Official Where Filed:

The offeror 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 offeror hereby certifies that the offeror, 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 offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

_____ (4) Certificate of Interim Exemption.

The offeror hereby certifies that (i) the offeror 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 9903.202-1, the offeror is not yet required to submit a Disclosure Statement. The offeror further certifies that if an award resulting from this proposal has not been made within 90 days after the end of that period, the offeror will immediately submit a revised certificate to the Contracting Officer, in the form specified under subparagraph (c)(1) or (c)(2) of Part I of this provision, as appropriate, to verify submission of a completed Disclosure Statement.

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

CAUTION: An offeror 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 offeror 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 offeror 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

K.15 USE OF GOVERNMENT-OWNED PROPERTY (NASA 1852.245-79) (JUL 1997)

(a) The offeror () does, () does not intend to use in performance of any contract awarded as a result of this solicitation existing Government-owned facilities (real property or plant equipment), special test equipment, or special tooling (including any property offered by this solicitation). The offeror shall identify any offered property not intended to be used. If the offeror does intend to use any of the above items, the offeror must furnish the following information required by Federal Acquisition Regulation (FAR) 45.205(b), and NASA FAR Supplement (NFS) 1845.102-71:

- (1) Identification and quantity of each item. Include the item's acquisition cost if it is not property offered by this solicitation.
- (2) For property not offered by this solicitation, identification of the Government contract under which the property is accountable and written permission for its use from the cognizant Contracting Officer.
- (3) Amount of rent calculated in accordance with FAR 45.403 and the clause at FAR 52.245-9, Use and Charges, unless the property has been offered on a rent-free basis by this solicitation.
- (4) The dates during which the property will be available for use, and if it is to be used in more than one contract, the amounts of respective uses in sufficient detail to support proration of the rent. This information is not required for property offered by this solicitation.

(b) The offeror () does, () does not request additional Government provided property for use in performing any contract awarded as a result of this solicitation. If the offeror requests additional Government-provided property, the offeror must furnish --

- (1) Identification of the property, quantity, and estimated acquisition cost of each item; and
- (2) The offeror's written statement of its inability to obtain facilities as prescribed by FAR 45.302-1(a)(4).

(c) If the offeror intends to use any Government property (paragraph (a) or (b) of this provision), the offer must also furnish the following:

- (1) The date of the last Government review of the offeror's property control and accounting system, actions taken to correct any deficiencies found, and the name and telephone number of the cognizant property administrator.
- (2) A statement that the offeror has reviewed, understands, and can comply with all property management and accounting procedures in the solicitation, FAR Subpart 45.5, and NFS Subparts 1845.5 and 1845.71.

(3) A statement indicating whether or not the costs associated with paragraph (2) of this provision, including plant clearance and/or plant reconversion costs, are included in its cost proposal.

**K.14 MANDATORY INFORMATION FOR ELECTRONIC FUNDS TRANSFER (LaRC 52.232-105)
(MAR 1998)**

You are required to furnish the following financial institution information. This information will be used by the Treasury Department to transmit payment data, by electronic means to vendor's financial institution. Failure to provide the requested information may delay or prevent the receipt of payments through the Automated Clearing House Payment System.

| FINANCIAL INSTITUTION INFORMATION | | | |
|---|-----------------------------------|----------------------------------|----------------------------------|
| NAME OF FINANCIAL INSTITUTION: | | | |
| ADDRESS: | | | |
| CITY: | | STATE: | ZIP CODE: |
| ACH COORDINATOR NAME: | | TELEPHONE NUMBER: () | |
| NINE-DIGIT ROUTING TRANSIT NUMBER: _ _ _ _ _ | | | |
| DEPOSITOR ACCOUNT TITLE: | | DEPOSITOR TIN #: | |
| DEPOSITOR ACCOUNT NUMBER: | | LOCKBOX NUMBER: | |
| TYPE OF ACCOUNT: | <input type="checkbox"/> CHECKING | <input type="checkbox"/> SAVINGS | <input type="checkbox"/> LOCKBOX |
| SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL: (Could be the same as ACH Coordinator) | | TELEPHONE NUMBER: () | |

SECTION L - INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS

L.1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FAR 52.252-1) (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/>

<http://www.hq.nasa.gov/office/procurement/regs/nfstoc.htm>

FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

| <u>CLAUSE NUMBER</u> | <u>TITLE AND DATE</u> |
|----------------------|---|
| 52.204-6 | Data Universal Numbering System (DUNS) Number (APR 1998) |
| 52.211-14 | Notice of Priority Rating For National Defense Use (SEP 1990) (X) DO rated |
| 52.214-34 | Submission of Offers In The English Language (APR 1991) |
| 52.214-35 | Submission of Offers In U.S. Currency (APR 1991) |
| 52.215-1 | Instructions to Offerors—Competitive Acquisition (OCT 1997) |
| 52.215-16 | Facilities Capital Cost of Money (OCT 1997) |
| 52.215-20 | Requirements For Cost Or Pricing Data Or Information Other Than Cost Or Pricing Data (Oct 1997) -- Alternate IV (OCT 1997) (The information required under (b) of this clause is identified at L.17.E.1.) |
| 52.222-24 | Preaward On-Site Equal Opportunity Compliance Review (APR 1984) (Deviation) |
| 52.252-5 | Authorized Deviations In Provisions (APR 1984) |

NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

1852.233-70 Protests to NASA (MAR 1997)

L.2 TYPE OF CONTRACT (FAR 52.216-1) (APR 1984)

The Government contemplates award of a cost-plus-fixed-fee contract resulting from this solicitation.

L.3 DETERMINATION OF COMPENSATION REASONABLENESS (1852.231-71) (MAR 1994)

(a) The proposal shall include a total compensation plan. This plan shall address all proposed labor categories, including those personnel subject to union agreements, the Service Contract Act, and those exempt from both of the above. The total compensation plan shall include the salaries/wages, fringe benefits and leave programs proposed for each of these categories of labor. The plan also shall include a discussion of the consistency of the plan among the categories of labor being proposed. Differences between benefits offered professional and non-professional employees shall be highlighted. The requirements of this plan may be combined with that required by the clause at FAR 52.222-46, "Evaluation of Compensation for Professional Employees."

(b) The offeror shall provide written support to demonstrate that its proposed compensation is reasonable.

(c) The offeror shall include the rationale for any conformance procedures used or those Service Contract Act employees proposed that do not fall within the scope of any classification listed in the applicable wage determination.

(d) The offeror shall require all service subcontractors (1) with proposed cost reimbursement or non-competitive fixed-price type subcontracts having a total potential value in excess of \$500,000 and (2) the cumulative value of all their service subcontracts under the proposed prime contract in excess of 10 percent of the prime contract's total potential value, provide as part of their proposals the information identified in (a) through (c) of this provision.

L.4 EVALUATION OF COMPENSATION FOR PROFESSIONAL EMPLOYEES (FAR 52.222-46)
(FEB 1993)

(a) Recompensation of service contracts may in some cases result in lowering the compensation (salaries and fringe benefits) paid or furnished professional employees. This lowering can be detrimental in obtaining the quality of professional services needed for adequate contract performance. It is therefore in the Government's best interest that professional employees, as defined in 29 CFR 541, be properly and fairly compensated. As a part of their proposals, offerors will submit a total compensation plan setting forth salaries and fringe benefits proposed for the professional employees who will work under the contract. The Government will evaluate the plan to assure that it reflects a sound management approach and understanding of the contract requirements. This evaluation will include an assessment of the offeror's ability to provide uninterrupted high-quality work. The professional compensation proposed will be considered in terms of its impact upon recruiting and retention, its realism, and its consistency with a total plan for compensation. Supporting information will include data, such as recognized national and regional compensation surveys and studies of professional, public and private organizations, used in establishing the total compensation structure.

(b) The compensation levels proposed should reflect a clear understanding of work to be performed and should indicate the capability of the proposed compensation structure to obtain and keep suitably qualified personnel to meet mission objectives. The salary rates or ranges must take into account differences in skills, the complexity of various disciplines, and professional job difficulty. Additionally, proposals envisioning compensation levels lower than those of predecessor Contractors for the same work will be evaluated on the basis of maintaining program continuity, uninterrupted high-quality work, and availability of required competent professional service employees. Offerors are cautioned that lowered compensation for essentially the same professional work may indicate lack of sound management judgment and lack of understanding of the requirement.

(c) The Government is concerned with the quality and stability of the work force to be employed on this contract. Professional compensation that is unrealistically low or not in reasonable relationship to the various job categories, since it may impair the Contractor's ability to attract and retain competent professional service employees, may be viewed as evidence of failure to comprehend the complexity of the contract requirements.

(d) Failure to comply with these provisions may constitute sufficient cause to justify rejection of a proposal.

L.5 SERVICE OF PROTEST (FAR 52.233-2) (AUG 1996)

(a) Protests, as defined in Section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

Head, Procurement Support Branch B
Mail Stop 126
NASA Langley Research Center
Hampton, VA 23681-2199

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

L.6 PROTESTS TO NASA (1852.233-70) (MAR 1997)

Potential bidders or offerors may submit a protest under 48 CFR Part 33 (FAR Part 33) directly to the Contracting Officer. As an alternative to the Contracting Officer's consideration of a protest, a potential bidder or offeror may submit the protest to the Deputy Associate Administrator for Procurement, who will serve as or designate the official responsible for conducting an independent review. Protests requesting an independent review shall be addressed to Deputy Associate Administrator for Procurement, NASA Code H, Washington, DC 20546-0001.

L.7 IDENTIFICATION OF UNCOMPENSATED OVERTIME (FAR 52.237-10) (OCT 1997)

(a) Definitions. As used in this provision--

"Uncompensated overtime" means the hours worked without additional compensation in excess of an average of 40 hours per week by direct charge employees who are exempt from the Fair Labor Standards Act. Compensated personal absences such as holidays, vacations, and sick leave shall be included in the normal work week for purposes of computing uncompensated overtime hours.

"Uncompensated overtime rate" is the rate that results from multiplying the hourly rate for a 40-hour work week by 40, and then dividing by the proposed hours per week. For example, 45 hours proposed on a 40-hour work week basis at \$20 per hour would be converted to an uncompensated overtime rate of \$17.78 per hour ($\20.00×40 divided by $45 = \$17.78$).

(b) For any proposed hours against which an uncompensated overtime rate is applied, the offeror shall identify in its proposal the hours in excess of an average of 40 hours per week, by labor category at the same level of detail as compensated hours, and the uncompensated overtime rate per hour, whether at the prime or subcontract level. This includes uncompensated overtime hours that are in indirect cost pools for personnel whose regular hours are normally charged direct.

(c) The offeror's accounting practices used to estimate uncompensated overtime must be consistent with its cost accounting practices used to accumulate and report uncompensated overtime hours.

(d) Proposals that include unrealistically low labor rates, or that do not otherwise demonstrate cost realism, will be considered in a risk assessment and will be evaluated for award in accordance with that assessment.

(e) The offeror shall include a copy of its policy addressing uncompensated overtime with its proposal.

L.8 COMMUNICATIONS REGARDING THIS SOLICITATION (LaRC 52.204-95) (OCT 1993)

Any communications in reference to this solicitation shall cite the solicitation number and be directed to the following Government representative:

Name: R. Todd Lacks
Phone: (757) 864-2477 (COLLECT CALLS NOT ACCEPTED)
Facsimile: 757-864-7709
Address: National Aeronautics and Space Administration
Langley Research Center
Attn: R. Todd Lacks, Mail Stop 126
Hampton, VA 23681-2199
E-mail: r.t.lacks@larc.nasa.gov

Any written communications must include the mail stop on the correspondence.

L.9 FACSIMILE TRANSMISSION--BIDS OR PROPOSALS (LaRC 52.204-100) (APR 1996)

(a) Definition. "Facsimile transmission," as used in this solicitation, means a submittal, via electronic equipment that communicates and reproduces both printed and handwritten material, for a modification of a bid or proposal or withdrawal of a bid or proposal that is submitted to and received by the Government, or an acknowledgment of amendment(s) to the solicitation.

(b) OFFERORS MAY NOT SUBMIT FACSIMILE BIDS OR PROPOSALS AS RESPONSES TO THIS SOLICITATION. Facsimile bids or proposals will not be considered.

L.10 USE OF GOVERNMENT SUPPLY SOURCES

You may assume for proposal preparation purposes that use of Government sources such as GSA Contractors will be authorized. Reference FAR Clause 52.251-1.

L.11 SMALL, SMALL DISADVANTAGED, AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN

(a) This provision is not applicable to small business concerns.

(b) The contract expected to result from this solicitation will contain FAR Clause 52.219-9, "Small, Small Disadvantaged, and Women-Owned Small Business Subcontracting Plan." Each offeror must submit the complete plan with its initial proposal.

L.12 SMALL DISADVANTAGED BUSINESS (SDB) PARTICIPATION TARGET AND SMALL BUSINESS SUBCONTRACTING GOAL

It is the policy of the United States Government to provide maximum practicable opportunity to participate in performing its contracts to small business, small disadvantaged business, and women-owned small business concerns. Such concerns shall also have the maximum practicable opportunity to participate as subcontractors in Government contracts, consistent with efficient contract performance. Additionally, NASA has a statutory goal to make available to SDB concerns, Historically Black Colleges and Universities, minority institutions, and women-owned small business concerns at least 8 percent of NASA's procurement dollars (See Section I clause 1852.219-76). The Government has also established mechanisms to benefit at the prime and subcontract level the participation of SDB concerns in the Standard Industrial Classification (SIC) Major Groups as determined by the Department of Commerce.

In keeping with these Government and Agency policy goals, the source evaluation factors in Section M of this solicitation include consideration of the planned participation of small and SDB concerns.

Section I clause 52.219-9 of this solicitation also requires each large business offeror to submit with its proposal a Small, HUBZone Small Business Concerns, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan. (The Subcontracting Plan is not required to be submitted by small business offerors). The Government has determined that a reasonable goal for this procurement for subcontracting to small business concerns overall is 16% of the contract price inclusive of an SDB goal of 5%. The Subcontracting Plan will be evaluated under Mission Suitability Subfactor 1 (See L.17.D.1.b.(7) and M.3.A.2.(g)).

The Government will separately evaluate the participation, at the prime and subcontract level, of SDB concerns in the SIC Major Groups as determined by the Department of Commerce. In accordance with FAR 19.1202, this solicitation contains an applicable source selection subfactor (See L.17.D.1.c. and M.3.A.3.).

The offeror shall make an independent assessment of SDB participation and small business subcontracting opportunities to attain or exceed the subcontracting goals indicated above, and to achieve the maximum practicable SDB participation target for this procurement.

The solicitation also includes a Price Evaluation Adjustment for SDB concerns in accordance with FAR Subpart 19.11 and 19.13. (See Section I clauses 52.219-4 and 52.219-23.)

L.13 ELECTRONIC SOLICITATION

This solicitation is being distributed electronically in an attempt to streamline the procurement process. The solicitation is available on the NASA Acquisition Internet Service (NAIS). Site: <http://db-www.larc.nasa.gov/procurement/home-page-html>. Offerors are responsible for downloading their own copy of the solicitation. Request for hard copies will be processed within 5 days, however failure to receive hard copies will not be considered justification for extending the proposal due date. Offerors shall monitor the site for amendments to the solicitation. Note that NAIS has an option that provides E-mail notification regarding updates. Offerors are reminded that electronic proposals will not be considered.

L.14 DETERMINATION OF FINANCIAL RESPONSIBILITY

The successful offeror may be required to demonstrate its responsibility for award and/or, if appropriate, the responsibility of its proposed subcontractors. Accordingly, you are hereby advised that if you are the selected offeror you may be requested to provide additional information pertaining to your (and your subcontractor(s)) financial resources after submission of your initial proposal. (Ref. FAR 9.104-1.)

L.15 PROPOSAL PAGE LIMITATIONS (NASA 1852.215-81) (FEB 1998)

(a) The following page limitations are established for each portion of the proposal submitted in response to this solicitation.

| <u>Proposal Section</u> | <u>Page Limit</u> |
|-------------------------------|-------------------|
| Technical Proposal – Volume I | 75 |
| Business Proposal – Volume II | N/A |

(b) A page is defined as one side of a sheet, 8 1/2" x 11", with at least one inch margins on all sides, using not smaller than 12 point type. Foldouts count as an equivalent number of 8 " x 11" pages. The metric standard format most closely approximating the described standard 8 " x 11" size may also be used. Graphics may be done in at least 8-point type.

(c) Title pages and tables of contents are excluded from the page counts specified in paragraph (a) of this provision. The ISO information required by L.17.D.1.b(8) is also excluded from the Volume I page limitation. The Business Proposal (Volume II) is not page limited; however, it should be strictly limited to the responses to Factor 2 (Cost), Factor 3 (Relevant Experience and Past Performance), and the executed Section K; Representations, Certifications, and Other Statements of Offerors. Information contained in the Business Proposal that can be construed as belongings\ in the Technical Proposal (Volume I) will be counted against the page limitation.

(d) If final proposal revisions are requested, separate page limitations will be specified in the Government's request for that submission.

(e) Pages submitted in excess of the limitations specified in this provision will not be evaluated by the Government and will be returned to the offeror.

L.16 CONTRACT OFFER

The offeror shall submit a contract offer with the original of its business proposal. The contract offer shall consist of the following: three signed originals of the SF 33 with Blocks 12 through 18 filled-in; only the pages for Sections B through J that require fill-ins; Section K; and all properly acknowledged amendments. The balance of the solicitation need not be returned unless the offeror has made changes to pages that will constitute part of the contract. (See paragraph 3 of the solicitation cover page (P-287)). Include with your contract offer a cover letter stating acceptance of the proposed contract terms and conditions that are incorporated in this RFP and will be included in a resultant contract. If exceptions are taken, list all exceptions with the reason for the exception, or refer to where the reason is addressed in the proposal. Any failure to clearly indicate objections to the proposed contract terms and conditions contained in this RFP will be construed as acceptance of them in their entirety.

Should you be awarded the contract (as evidenced by the Contracting Officers signature on SF33), an original of the contract offeror as submitted with your proposal will be returned to you. The balance of the contract should be withdrawn from the solicitation and included as a part of your copy of the fully executed contract.

It is critical that conforming, signed contracts be submitted with each offer, as it is anticipated that award may be made without discussions.

L.17 PROPOSAL PREPARATION AND SUBMISSION--SPECIAL INSTRUCTIONS

A. Number of Proposals, Time and Place of Submission--The offeror shall submit the original, ten (10) copies, and two (2) electronic copies on 3 1/2 inch diskettes of each proposal volume to the address shown in Block 8 of the Standard Form (SF) 33 (face page of this solicitation), or if hand carried, to the depository listed in Block 9 of the SF 33. In addition to the above copies, one (1) copy of your proposal shall be sent directly to the cognizant DCAA office with a cover letter referencing the solicitation number that appears in Block 3 of the SF 33. Offers must be received at the place and time indicated in Block 9 of the SF 33.

B. Proposal Clarity--Your proposal should be specific, complete, and concise. The offeror is urged to examine this solicitation in its entirety and to assure that his proposal contains all the necessary information, provides all required documentation and is complete in all respects since evaluation of the proposal will be based on the actual material presented and not on the basis of what is implied. You should ensure that your cost proposal is consistent with your technical proposal in all respects since the cost proposal may be used as an aid to determine the offeror's understanding of the technical requirements. Discrepancies may be viewed as a lack of understanding.

C. Proposal Format and Content

1. Proposals must be submitted in two (2) volumes: Volume I, Technical Proposal, and Volume II, Business Proposal. No cost information shall be presented in the Technical Proposal.

2. Any work functions which the offeror expects to obtain through subcontracting and/or consulting agreements should be described and explained. Such features as the rationale for this arrangement, the qualifications of the subcontractor, magnitude of effort, facilities/equipment and commitment of parties providing such goods and/or services should be addressed.

3. The Business Proposal (Volume II) is not page limited. However, the Business Proposal is to be strictly limited to responses to Factors 2, 3, and the executed Section K, Representations, Certifications, and Other Statements of Offerors.

4. Each volume should be specific and complete. Each volume should include the detailed information outlined below in order that it can be evaluated in accordance with the evaluation

factors set forth in Section M. You should structure each volume to adhere to the Factor headings listed below:

D. TECHNICAL PROPOSAL - VOLUME I

1. FACTOR 1 - MISSION SUITABILITY

Technical Proposal (Volume I) Preparation Instructions

Volume I shall be prepared in accordance with the following instructions:

a. Subfactor 1 – Phase-In/Staffing

(1) Your proposal should detail your phase-in/phase-out plan which addresses phase-in staffing, schedule and approach to completion of each phase-in activity to minimize changeover difficulties and maximize continuity of services to the Government, and your plan to ensure a successful transition in the event that another firm wins the follow-on contract to this procurement. (For proposal purposes, assume selection and contract award will take place by July 1, 1999, and a contract start date of September 1, 1999.)

(2) Your proposal should address your initial staffing plan detailing sources of personnel for the entire complement, recruiting methods, initial orientation and training, personnel certification, and approach for attracting and retaining high quality personnel. You should specify the expected amount of incumbent personnel retention and the basis therefore. If applicable, include your approach for integrating any proposed subcontracting and/or teaming arrangements. You should describe how you intend to make operational all necessary non-personnel resources for contract performance.

(3) Your proposal should include a Total Compensation Plan for maintaining an adequate work force over the life of the contract. The plan should provide details of your compensation plans for both professional and non-professional employees, including those of any teaming partners and subcontractors. Include salaries, hourly rates, and a detailed description of your fringe benefits. It should itemize the benefits that require employee contributions and the amount of the contribution as a percentage of the total cost of the benefit and the employee's salary or wage. It should describe your policies and procedures for establishing salaries or wages for any retained incumbent contractor employees and any eligibility and vesting requirements relative to your fringe benefits (e.g., vacation, medical, insurance, sick leave and retirement). It should specify how pre-existing medical conditions for incumbents and their dependents will be handled under your insurance plan. Your Total Compensation Plan should also address the information required by the Section L provisions entitled "Evaluation of Compensation for Professional Employees (FAR 52.222-46) (FEB 1993)" and "Determination of Compensation Reasonableness (NASA 18-52.231-71) (MAR 1994)".

b. Subfactor 2 – Management and Operations Approach

(1) Your proposal should demonstrate your understanding of the requirements of the Statement of Work (SOW) by describing your approach to performing, in a timely and responsive manner, every area covered under the SOW. Your approach should identify and provide supporting rationale for any proposed innovative methods for performing or managing work required by the SOW.

(2) Describe your approach for employee training and continuous improvement of REOS operations for the duration of the contract.

(3) Include your approach to ensuring that all Contractor operations will be performed in compliance with NASA, LaRC and the Contractor's safety program requirements. Also address your approach to achieving quality control of all work performed under this contract.

(4) Your proposal should provide a description of your planned organizational structure and your approach to planning, directing, controlling, and managing the work requirements set forth in the SOW. Describe your purchasing and subcontracting procedures, and indicate if your company has a Government-Approved Purchasing System. Address your plans to respond to major changes in workload, such as the rescheduling of research operations or the inclusion of additional research facilities.

(5) Describe your approach for scheduling and arranging, in an efficient and productive manner, all work consistent with the mission and normal operations of NASA LaRC. Describe your approach to reducing and minimizing facility downtime for maintenance and repair activities.

(6) Contracting for personal services, as defined in FAR 37.104, is prohibited under the contract without exception. The offeror should submit a comprehensive plan for the avoidance of personal services under the contract from their top management down to the working level.

(7) Each large business offeror shall submit its Small, HUBZone Small Businesses Concerns, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan for insuring the maximum practicable participation of Small Business concerns in the performance of this contract, as required by Section I Clauses FAR 52.219-8 and 52.219-9. This plan shall include separate goals for the basic contract and for each option period. The plan should include identification of specific small businesses which will perform work on the contract, if known; the extent of commitment to use small business concerns; and the types and amount of work to be performed by small businesses. The Government has determined that a goal of 16 percent of the contract price is a reasonable goal for subcontracting with small businesses for this procurement. (Note that while the plan required by FAR 52.219-9 requires goals to be expressed as a percentage of total planned subcontracting dollars, the Government will evaluate the proposed goal as a percentage of the proposed contract price.)

(8) The offeror shall submit the following information to demonstrate the effectiveness of its quality system:

1. Offerors which are ISO 9002 compliant (as defined in H.8) at Proposal Due Date – Offerors which are ISO 9002 compliant at the date the proposals are due shall provide a copy of their quality system manual. Such offerors shall also provide their quality system procedures that address: (a) contract and subcontract management, (b) customer requirements review and execution, (c) task management, including work order generation and processing, (d) document control, (e) handling of customer supplied product, (f) corrective and preventive action, and (g) training of employees. Offerors which are not ISO compliant are not required to submit a quality system manual or quality system procedures. However, those offerors which submit these documents demonstrating an effective quality system have the potential to be given the most favorable treatment possible under this evaluation element.

2. All offerors: All offerors shall submit a quality planning procedure as described in Section 4.2 of ANSI/ISO/ASQC Q9002-1994, Quality Systems Model for Quality Assurance in Production, Installation, and Servicing. This quality planning procedure shall describe how the offeror will develop quality system documentation or modify existing quality system documentation to control work activities specific to this contract.

3. Offerors Which are Not Yet ISO Compliant: Offerors which are not ISO compliant at the date the proposals are due should submit a letter from an appropriate company official expressing its commitment to become compliant within nine months of the contract effective date, in accordance with H.8.

c. Subfactor 3 - Small Disadvantaged Business (SDB) Participation (in the SIC Major Groups as Determined by the Department of Commerce)

(1) The offeror shall submit its plan for insuring the maximum practicable participation of SDB firms in the SIC Major Groups as determined by the Department of Commerce (the authorized Groups) in the performance of this contract.

(2) The offeror shall provide targets for the basic contract period and for each option period. These targets shall be expressed as dollars and percentages of total contract value, in each of the authorized Groups. A total target for SDB participation by the contractor, including joint venture partners and team members, and a total target for SDB participation by subcontractors shall be specified. If the offeror is an SDB that has waived the SDB price evaluation adjustment at 52.219-23, it shall provide with its offer a target for the work that it intends to perform in the authorized Groups as the prime contractor. Any targets will be incorporated into and become part of any resulting contract (See H.17).

(3) The offeror shall describe its approach and methods for insuring SDB participation. The proposal shall include identification of specific SDB's that will perform work on the contract, if known; the extent of commitment to use SDB concerns; and the types and amount of work to be performed by SDB's. In addition, the offeror shall identify and discuss its past performance in complying with subcontracting plan goals for SDB concerns and monetary targets and/or contract specified goals for SDB participation. (This past performance information should be included for those contracts listed for the offeror for Factor 3, Relevant Experience and Past Performance).

d. Subfactor 4 – Cost Realism

Cost Realism is the degree to which all costs proposed for the total contract (CLIN's 1-3) are realistic for the work to be performed, reflect a clear understanding of the requirements, and are consistent with the various elements of the offeror's technical proposal. Paragraph E below requires the offeror to submit a Cost Proposal for the total contract. The Cost Proposal, along with your responses to the three (3) Mission Suitability Subfactors discussed above, will be the primary source for determining Cost Realism, as discussed in paragraph M.3.A.4. A separate discussion concerning Cost Realism is not required.

E. BUSINESS PROPOSAL - VOLUME II

1. FACTOR 2 - COST

Under requirements of the Federal Acquisition Regulation (FAR), the Contracting Officer is responsible for determining reasonableness of prices. It is expected that adequate price competition will be obtained under this solicitation and that a determination of price reasonableness will be made in accordance with FAR 15.403-3. However, to establish cost realism, and the extent to which prices reflect performance addressed in the Technical Proposal, each offeror is required to submit cost or pricing information with its proposal. (Ref. FAR Clause 52.215-20, Alternate IV.)

a. The offeror shall fully comply with the requirements set forth in Table 15-2, FAR 15.408. Include in your cost proposal sufficient detail to support and explain all costs proposed, giving figures and narrative explanation. Since an award may be made without further discussion, this data must be submitted with your proposal.

b. The cost proposal should be prepared in a manner consistent with your current accounting system and Cost Accounting Standards Disclosure Statement, if applicable.

c. Each subcontract expected to exceed a total of \$500,000 shall also be supported in a similar manner consistent with paragraphs a. and b. above. Prospective subcontractors may

submit proprietary cost data directly to the Government no later than the date and time specified in the instructions for receipt of offers for this RFP.

d. Computerized Cost Proposal Input Instructions

(1) The Government intends to use personal computers with Windows 95 and LOTUS 1-2-3 software to aid in the evaluation of the cost proposal. Offerors and subcontractors providing direct labor are requested to submit cost data on floppy diskettes, two copies, 3-1/2 inch, formatted under MS DOS or Windows 95. Computerized cost data must be the identical data and format as that submitted in the paper proposal. In the event of any inconsistency between the diskettes and the paper proposal, the paper proposal will be considered the intended version. Any questions related to the computerized cost proposal shall be directed to John T. Bush at (757) 864-2544.

(2) Each diskette submitted must have an external label attached to each indicating the company name and the solicitation number. Provide all data/information under one file with no external links.

(3) All diskette submissions shall be true self-calculating spreadsheets. Include on your diskette all rates and formulas used to derive your proposed costs. For example, your straight time hours might show a formula that, either directly or by referencing other cells, multiplies positions in a labor category times the productive man-hours in a man-year for that category and your overhead elements might show a formula that, either directly or by referencing other cells, multiplies a rate times the applicable base. Any absolute values must be explained and their values supported.

e. Other Cost and Pricing Instructions

(1) All cost and pricing information should be submitted in a format consistent with the contract's initial one-year base period and four one-year option periods. The prime Contractor and any direct labor subcontractor(s) should submit cost and pricing information to support their proposal(s).

(2) Labor – Offerors may propose the direct productive labor hours specified in the following table:

| Estimated Direct Productive Labor Hours by CLINs | | | | | | |
|--|---------|-------|---------|-------|---------|-------|
| | CLIN 1 | | CLIN 2 | | CLIN 3 | |
| | ST | OT | ST | OT | ST | OT |
| Base Period | 42,188 | 1,000 | 22,500 | 1,000 | 37,500 | 1,000 |
| Option 1 | 42,188 | 1,000 | 22,500 | 1,000 | 37,500 | 1,000 |
| Option 2 | 42,188 | 1,000 | 22,500 | 1,000 | 37,500 | 1,000 |
| Option 3 | 42,188 | 1,000 | 22,500 | 1,000 | 37,500 | 1,000 |
| Option 4 | 42,188 | 1,000 | 22,500 | 1,000 | 37,500 | 1,000 |
| Total | 210,940 | 5,000 | 112,500 | 5,000 | 187,500 | 5,000 |

ST = Straight Time

OT = Overtime

The “direct productive labor hours” specified in the table above are defined as those productive hours expended by Contractor and subcontractor personnel in the performance of the direct support functions required to complete the Statement of Work requirements as defined in Section C. It does not include hours for the Contractor Manager, administrative or other labor that the Contractor may charge as direct labor under its established accounting policies and procedures. It does not include sick leave, vacation, holiday leave, military leave, or any type of administrative leave. It does include overtime hours and direct labor hours provided under subcontracts. It does include all hours expended by first-line supervisors or team/group leaders even though they may be dual-functioned positions.

The required direct productive labor hours were derived by multiplying the positions for each CLIN set forth in Attachment 11, Government-Estimated Staffing and Position Qualifications, by the Government's estimated productive man-year of 1,875 hours per year, and then adding 1,000 overtime hours per year for each CLIN. The Government-estimated staffing in Attachment 11 is provided for informational purposes only and is not restrictive for proposal purposes. Offerors should propose the staff that is optimum for their proposed approach to contract performance; however, the proposed hours must equate to the total level-of-effort specified in the table above.

Since the number of productive hours in a man-year can vary among companies, each offeror should propose a staff to meet the Government's level-of-effort requirements using its own productive man-hours per year. **DO NOT USE THE GOVERNMENT'S ESTIMATED NUMBER OF MAN-HOURS (1,875) UNLESS IT ACCURATELY REFLECTS YOUR ESTIMATED PRODUCTIVE MAN-YEAR.** You should assume that overtime will be required equally of all direct productive labor positions.

A copy of the Register of Wage Determinations (WD) and Fringe Benefits issued by the Department of Labor for employees under this proposed contract is included in Exhibit D. It should be noted that the wage rates specified therein are minimum rates. It should also be noted that the wage determination may not list all labor classes to be employed under this contract. Paragraph (a) of the Section I clause entitled "Service Contract Act of 1965" states that in this event, conformable rates must be established for those service employees to be employed under the contract but not listed on the wage determination. These conformable wage rates will be the result of a three-party agreement between the employees, Contractor and the Government.

(3) Overhead – Provide the fringe benefits, payroll tax, and other overhead costs applicable to direct labor costs. Show bases, rates, and calculations. Your proposal must provide details to allow analysis and comparison to the professional compensation plan. For personnel covered by the WD, confirm the minimum benefits are met and provide the confirming calculations.

If it is your normal practice to account for fringe benefits and payroll taxes as direct costs, or if you intend to include these costs in a fringe benefit or overhead pool dedicated to the proposed contract only, estimate the costs for each element. If these costs are part of a fringe benefit or overhead pool that will allocate to other cost objectives as well as to the proposed contract, and you normally estimate such costs by projecting a fringe benefit or overhead rate to be applied to a base such as direct labor cost, estimate the costs according to the normal practice and divide the costs among the various individual elements in a logical manner. Explain the basis for your estimating.

(4) Allocated Labor Other Than G&A – Enter any non-G&A labor costs that will be allocated to the proposed contract other than through an indirect cost pool. This includes administrative personnel. Labor categories shall be specified and details provided.

(5) Consumable Materials and Repair Parts – For estimating purposes assume \$750,000 annually for consumable materials and repair part costs (includes critical reserve items) related to performing SOW Section 4.0, Routine Maintenance and Corrective Repair. Use \$300,000 each for CLIN's 1 and 3, and \$150,000 for CLIN 2.

(6) Other Direct Costs - Provide a comprehensive itemized breakdown and detailed explanation of all other ODC costs proposed for this effort. For vehicles dedicated to this contract, include your lease vs. purchase analyses. If you are leasing your facility, provide a copy of your lease agreement.

(7) City/County Business License Tax - Consult applicable local jurisdictions to determine any applicable business license taxes and enter your estimates. Consult the City of Hampton regarding personnel to be housed at LaRC even if your facility will not be located in Hampton.

(8) G&A - Enter G&A costs, and identify separately the rates and bases used to determine the costs. Provide the composition of the G&A pool costs and allocation bases upon which the rates were determined.

(9) Facilities Capital Cost of Money (FCCOM) - Enter FCCOM if you choose to include it in your proposal (ref. FAR 52.215-30). If you do not propose FCCOM, Clause 52.215-31, Waiver of Facilities Capital Cost of Money (SEPT 1987) will be included in the contract. As required by NASA FAR Supplement 18-15.970-3, when facilities capital cost of money is included as an item of cost in the Contractor's proposal, a reduction in the profit objective shall be made in an amount equal to the amount of facilities capital cost of money allowed in accordance with FAR 31.205-10(a).

(10) Escalation – As your cost proposal is expected to reflect the total cost to the Government for you to provide the effort in the statement of work of this solicitation, your proposal should include anticipated escalation unless escalation is prohibited by law, regulation, or a specific clause in this document. Escalation factors should be clearly stated and escalated amounts shown for each escalated item. Discuss the derivation and rationale for the proposed escalation. Discuss your rationale for not escalating any elements that would normally be escalated.

(11) Fixed Fee - Provide the amounts of fixed fee for the initial contract, as well as for the four one-year options.

(12) Indirect Rates History – Provide a three (3) year history of your indirect rates and corresponding escalations.

(13) Phase-In Costs – If proposed, phase-in costs should be fully detailed and supported, and should correlate with your technical proposal.

D. FACTOR 3 - RELEVANT EXPERIENCE AND PAST PERFORMANCE

Each offeror should submit information on its relevant experience and past performance, and that of significant subcontractors or teaming partners, if any, under existing or prior contracts for similar products or services. Each offeror should discuss the extent to which contract objectives (including technical, management, schedule, small and small disadvantaged subcontracting goals, safety performance, and cost) have been achieved on related efforts. Relevant experience is the accomplishment of work which is comparable or related to the work or effort required by this RFP. The information provided should contain overall corporate or offeror experience and past performance, but not the experience and performance of individuals who are proposed to be involved with work pursuant to this RFP. For newly formed businesses having little or no company experience, the relevant experience and past performance of a predecessor firm, the company's principal owner(s) or corporate officer(s) will be considered. You are cautioned that omissions or an inaccurate or inadequate response to this evaluation factor will have a negative effect on your overall evaluation.

The Relevant Experience and Past Performance Form (Form REPP), included as Attachment 1 to this RFP, will be used to collect information concerning the relevant experience and past performance of the offeror and any subcontractor and/or teaming partner. The offeror shall select three of its customers and three customers for each subcontractor and/or teaming partner, for which it has performed relevant work within the past three years and forward copies of the Form REPP to those agencies and/or firms for completion and submission to the Contract Specialist for this solicitation. Your customers should return or fax this form to the Contract Specialist no later than the closing date of the solicitation. The address, fax number, and e-mail address are listed at the bottom of the first page of the Form REPP. Offerors shall include in their proposal the written consent of their proposed significant subcontractors to allow the Government to discuss the subcontractors' past performance evaluation with the offeror during the discussion phase of this procurement. Offerors shall include with their proposal a list of the firms that will submit evaluation forms.

The offeror shall also include a list of other contracts it has held and any contracts significant subcontractors and/or teaming partners have held within the past five years for requirements similar to those being solicited in this acquisition. Other references, aside from those provided by the offeror, may be contacted and their comments considered during the source selection process. The information submitted may be verified by the Government through discussions with the references provided. While the Government may elect to consider data obtained from other sources, the burden of providing relevant references that the Government can readily contact rests with the offeror.

Offerors shall prepare short narrative explanation on each contract listed or for which a Form REPP will be received that identifies its customers and briefly describes the contract, including the objectives achieved and any cost growth or schedule delays encountered. Your summary should include the following for each related contract:

- a. Contract Number
- b. Contracting Agency
- c. Points of contact in the program and contracting offices, including telephone numbers (Please insure that this information is current and correct).
- d. Contract Type
- e. Contract beginning and end dates.
- f. Description of the contract work and explanation of its relevance to this solicitation.
- g. Describe the original cost/price and delivery terms in the contract and the cost/price and delivery actually experienced, and explain any differences.
- h. For award/incentive fee contracts, separately state in dollars the base fee (if applicable) and award/incentive fee available and the award/incentive fee actually received, on a contract year basis.
- i. Identify those contracts having Union Collective Bargaining Agreements and provide information problems encountered/lessons learned and corrective actions taken to resolve those problems.

SECTION M - EVALUATION FACTORS FOR AWARD

M.1 METHOD OF EVALUATION

A. Proposals received in response to this RFP will be evaluated by a Source Evaluation Committee in accordance with FAR 15.3 and NFS 1815.3. Mission Suitability will be scored. Cost and Relevant Experience and Past Performance will not be scored. The Source Selection Authority, after consultation with the source evaluation committee, will select the offeror which she considers can perform the contract in a manner most advantageous to the Government, all factors considered.

B. Evaluation will be on the basis of material presented and substantiated in your proposal and not on the basis of what may be implied. Vague statements will be interpreted as a lack of understanding on the part of the offeror and/or inability to demonstrate adequate qualifications. Your attention is directed to Provisions L.15, L.16, and L.17 which provide important instructions concerning proposal preparation.

C. In accordance with NFS 1815.609, a total of no more than three (3) proposals shall be a working goal in establishing the competitive range, should the Contracting Officer determine that formal discussions are needed.

M.2 EVALUATION OF OPTIONS (FAR 52.217-5) (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total cost and fee for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

M.3 EVALUATION FACTORS

A. Factor 1 – Mission Suitability—The content of this section of your proposal will provide the basis for evaluation of your response to the technical requirements of the RFP. A risk assessment will be performed by the Government which will consider any technical, schedule and cost risk. Risks may result from the offeror's technical approach, processes, equipment, etc. or as a result of the cost, schedule, and performance impacts associated with their approaches. The cost realism assessment of the proposed price will be considered in this risk assessment. Risk assessments will be considered in determining Mission Suitability strengths, weaknesses, deficiencies, and numerical/adjectival ratings. Identified risk areas and the potential for cost impact will be considered. The Mission Suitability Subfactors to be considered and scored in the evaluation of your Technical Proposal are set forth below:

1. Subfactor 1 - Phase-In/Staffing

(a) The effectiveness of the offeror's plan to minimize contract transition difficulties and to maximize continuity of services to the Government.

(b) The effectiveness of the offeror's plans to be fully staffed with qualified personnel by contract start date and to make operational all necessary non-personnel resources for contract performance will be evaluated.

(c) The effectiveness of the offeror's Total Compensation Plan for maintaining an adequate work force over the life of the contract will be evaluated in accordance with the Section L provisions entitled "Evaluation of Compensation for Professional Employees (FAR 52.222-46) (FEB 1993)" and "Determination of Compensation Reasonableness (NASA 18-52.231-71) (MAR 1994)". The appropriateness of proposed salaries, hourly rates, and fringe benefits will be evaluated. The appropriateness of required employee contributions for fringe benefits will be evaluated. The appropriateness of the offeror's policies and procedures for establishing salaries or wages for any retained incumbent contractor employees will be evaluated. The appropriateness of any eligibility or vesting requirements for incumbent employees relative to fringe benefits (e.g., vacation, medical, insurance, sick leave and retirement) will also be evaluated. The appropriateness of the offeror's health insurance plan provisions covering pre-existing medical conditions of incumbent employees and their dependents will be evaluated.

2. Subfactor 2 - Management and Operations Approach

(a) The offeror's understanding of the requirements and approach to performing the work, as demonstrated in the offeror's proposed approach for performing the requirements set forth in the SOW, will be evaluated. The offeror's demonstrated expertise in the SOW requirements will be evaluated. Innovative methods proposed for performing or managing work under this contract will be evaluated.

(b) Approach for employee training and continuous improvement of REOS operations will be evaluated.

(c) The offeror's approach to ensuring all operations are performed in compliance with NASA, LaRC and the Contractor safety program requirements will be evaluated. The approach to achieving quality control for all work performed will also be evaluated.

(d) The appropriateness of the offeror's proposed organizational structure and approach to planning, directing, controlling, and managing the work requirements set forth in the SOW will be evaluated. The offeror's purchasing and subcontracting procedures will be evaluated. The offeror's approach to handling major changes in workload will also be evaluated.

(e) The soundness of the offeror's approach to scheduling and arranging all work to cause the least interference with LaRC's mission and normal operations will be evaluated. The offeror's approach to reducing and minimizing facility down time for maintenance and repair activities will also be evaluated.

(f) The effectiveness of the offeror's plan to prevent the occurrence of personal services as defined in FAR 37.104 will be evaluated.

(g) The Government will evaluate the adequacy of the Small, HUBZone Small Business Concerns, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan. The offeror's proposed overall small business subcontracting goal will be evaluated in comparison with the goal of 16%. The proposed approach to meeting this goal; the extent to which the offeror has identified specific small businesses; the extent of commitment to use small business concerns (i.e., enforceable commitments are to be weighted more heavily than non-enforceable ones); types, amount, complexity, and variety of work to be performed by small businesses; and the realism of the Subcontracting Plan will be evaluated. This paragraph does not apply to Small Business offerors.

(h) An evaluation will be made of the effectiveness of the offeror's quality system. The offeror's quality system manual will be evaluated to establish that the offeror has an operational system that will be utilized to ensure that product delivered or services provided meet LaRC specified requirements. The offeror's quality system procedures will be evaluated for soundness and completeness and to establish that the offeror has adequately addressed the applicable ANSI/ISO/ASQC Q9002 requirements. The offeror's quality planning procedure will be evaluated to gain insight into the methods the offeror will utilize to address LaRC requirements and the soundness and completeness of these methods. For those offerors that are not ISO compliant at the date the proposals are due, the Government will evaluate the offeror's expressed corporate commitment to become compliant. Offerors which submit a quality system manual, quality system procedures, and a quality planning procedure demonstrating an effective quality system have the potential to be given the most favorable treatment possible under this evaluation element.

3. Subfactor 3 - SDB Participation (in the SIC Major Groups as Determined by the Department of Commerce)

The extent of participation of SDB concerns in the SIC Major Groups as determined by the Department of Commerce will be evaluated. The extent to which the offeror has identified specific SDB's; the extent of commitment to use SDB concerns (i.e., enforceable commitments are to be weighted more heavily than non-enforceable ones); types, amount, complexity, and variety of work to be performed by SDB's; the realism of the proposal; and past performance in complying with subcontracting plan goals for SDB concerns and monetary targets and/or contract specified goals for SDB participation will be evaluated.

4. Subfactor 4 - Cost Realism

Cost Realism is the degree to which all costs proposed for the total contract (CLIN's 1-3) are realistic for the work to be performed, reflect a clear understanding of the requirements, and are consistent with the various elements of the offeror's technical proposal. The offeror's cost proposal for the total contract will be evaluated for cost realism. A pool of 300 points will be used to

adjust the Mission Suitability score to account for any weaknesses associated with a lack of cost realism present in the offeror's proposal. This adjustment will be made if the proposed resources are unrealistically high or low. The "cost realism adjustment" will be determined for the overall proposal amount. Depending upon the severity of the adjustment, some or all of the points in the cost realism pool will be deducted from the offeror's Mission Suitability score. The realism of proposed costs may significantly affect Mission Suitability Scores.

The total amount of points to be subtracted from the Mission Suitability score will be calculated as follows:

(a) If the percent cost realism adjustment of the cost proposal is less than 5%, no adjustment will be made to the Mission Suitability score.

(b) If the percent cost realism adjustment is greater than 30%, all 300 points will be deducted from the offeror's Mission Suitability score.

(c) Where the cost realism adjustment is between the range of 5% and 30% the amount of points to be subtracted will be allocated according to the table below:

| Percentage Range | Point Adjustment |
|--------------------------|------------------|
| +/- 5 percent | 0 |
| +/- 6 to 10 percent | -50 |
| +/- 11 to 15 percent | -100 |
| +/- 16 to 20 percent | -150 |
| +/- 21 to 30 percent | -200 |
| +/- more than 30 percent | -300 |

B. Factor 2 – Cost and Fee—An analysis of the proposed cost and fee for the basic and priced option periods will be conducted to determine their reasonableness and realism, and the extent to which they reflect performance addressed in the technical proposal. An assessment will be made of the offeror's capability to accomplish the contract objectives within the estimated cost proposed. The reasonableness of the proposed fixed-fee will also be evaluated, in accordance with FAR 15.404-4 and NASA FAR Supplement 1815.404-4. A probable cost for each proposal will be developed in accordance with NASA FAR Supplement 1815.305(a)(1)(B). The probable cost plus proposed fee for each offeror, not the proposed cost plus fee, will form the basis for price comparison in the selection of an offeror for contract award. The cost proposal will be used as an aid to determine the offeror's understanding of Mission Suitability requirements.

C. Factor 3 – Relevant Experience and Past Performance—Relevant Experience and Past performance will be assessed to determine the extent to which contract objectives (including technical, management, schedule, small and small disadvantaged subcontracting goals, safety performance, and cost) have been achieved on related efforts by the offeror and any significant subcontractors and/or teaming partners. Relevant Experience will be viewed as the demonstrated accomplishment of work which is comparable and relevant to the objectives of this procurement. This factor includes the evaluation of overall corporate or offeror experience and past performance, including any significant subcontractors and/or teaming partners, but not the experience and performance of individuals who are proposed to be involved in the required work. For newly formed businesses having little or no company experience, the relevant experience and past performance of a predecessor firm, the company's principal owner(s), or corporate officer(s) will be evaluated.

In conducting the evaluation for this factor, the Government reserves the right to use all information available at the time of evaluation, whether provided by the offeror in its proposal or obtained from other sources. For example, the Government may rely on information contained in its own records

and that available through reference checks, Government audit agencies, and commercial sources. Offerors may be given the opportunity to rebut negative references during any oral or written discussions, if held.

M.4 RELATIVE IMPORTANCE OF EVALUATION FACTORS

A. The weights to be used in the scoring of the Mission Suitability Subfactors are presented below:

| <u>Subfactors</u> | | <u>Weights</u> |
|-------------------|--|----------------|
| 1. | Phase-In/Staffing | 300 |
| 2. | Management and Operations Approach | 600 |
| 3. | Small Disadvantaged Business (SDB) Participation | <u>100</u> |
| | Total | 1000 |
| 4. | Cost Realism | Up to -300 |

The numerical weights assigned to the above subfactors are indicative of the relative importance of those evaluation areas. The weights will be utilized only as a guide.

B. Overall, in the selection of a Contractor for negotiation leading to contract award, Mission Suitability, Cost, and Relevant Experience and Past Performance will be of essentially equal importance. All evaluation factors other than Cost, when combined, are significantly more important than Cost.

ATTACHMENT 1

RELEVANT EXPERIENCE AND PAST PERFORMANCE EVALUATION
INSTRUCTIONS/QUESTIONNAIRE

ATTACHMENT 1

RELEVANT EXPERIENCE AND PAST PERFORMANCE
EVALUATION INSTRUCTIONS

Send the completed form directly to the address or fax number listed at the bottom of page 2. Page one, Section I through III, of the REPP form provides for contractually related descriptive information and identification of the evaluator. Space for comments is provided at the end of the second page (additional pages for comments may be added if desired). Comments would be particularly appreciated concerning excellent and less than satisfactory performance.

Section IV is a form to evaluate the contractor's performance in the areas of Technical Performance, Technical Management and Business Management. The following definitions are offered for your use in assigning a performance level for each element.

EXCELLENT - Exemplary performance of exceptional merit in a timely, efficient, and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance. Experience is highly relevant to this procurement.

VERY GOOD - Very effective performance, fully responsive to contract requirements accomplished in a timely, efficient, and economical manner for the most part; only minor deficiencies. Experience is highly relevant to this procurement.

GOOD - Effective performance; fully responsive to contract requirements; reportable deficiencies, but with little identifiable effect on overall performance. Experience is relevant to this procurement.

FAIR - Meets or slightly exceeds minimum acceptable standards; adequate results; reportable deficiencies with identifiable, but not substantial, effects on overall performance. Experience is somewhat relevant to this procurement.

POOR - Does not meet minimum acceptable standards in one or more areas; remedial action required in one or more areas; deficiencies in one or more areas which adversely effect overall performance. Experience is not relevant to this procurement.

Section V. Please provide your assessment of the extent of relevant experience associated with our SOW evidenced within the contract for which you are a reference. The following definitions are offered for your use in assigning a performance level for each of the factors in this section.

SIGNIFICANT EXPERIENCE - The contractor routinely performed a full range of experience.

MODERATE EXPERIENCE – The contractor has experience in several aspects of a work element, even though the experience may not have been on a continuous basis.

MINIMAL EXPERIENCE - Although at least some of the work may have been performed, such performance was limited in scope or frequency by the contractor.

DID NOT PERFORM - The work element was not performed under the contract.

Section VI requests your comments in areas of contract performance with space at the end for comments relevant to other sections of the REPP form.

DESCRIPTION -- RESEARCH EQUIPMENT OPERATIONS SERVICES (REOS)

The following describes the environment for which the contractor is being considered relative to his/her past experience:

The objective of the REOS procurement is to provide operational support for research systems at the Langley Research Center (LARC). Operations support is divided into three areas; Fluid Systems, Drive Controls and National Transonic Facility (NTF – wind tunnel) operations. Fluid systems include air compression and distribution systems, gas compression and reclamation systems, air removal systems, off-loading of gases, liquid nitrogen deliveries and other fluid systems. Fluids being supported by this equipment include air, hydrogen, nitrogen (gaseous and liquid), silane, oxygen, helium, R134A and methane. Drive controls include electrical and mechanical drive systems and power dispatching. Support for the NTF includes process controls, drive/mach number controls, model data systems, oxygen monitoring, card key administration, model preparation bay support, information technology (financial/technical status reporting), library and configuration management, engineering services (model integrity and project management support), safety, configuration control and storage/inventory. In addition to operations support, the contractor will be required to perform routine maintenance and minor corrective repairs on the equipment being operated and to document the operations, maintenance and any changes to the configuration of the systems. The routine maintenance function will include minor component changes, lubrication, inspections, troubleshooting, problem diagnosis, and tests. The contractor will be required to maintain a spare parts and consumables inventory for the systems supported.

ATTACHMENT 1

FORM REPP -- RELEVANT EXPERIENCE AND PAST PERFORMANCE

Solicitation No. 1-039-GH.0981

I. CONTRACT INFORMATION:

- A. Name of Company Being Evaluated: _____
- B. Address: _____
- C. Contract Number: _____ D. Contract Type: _____
- E. Contract Value: _____ F. Period of Performance: _____ to _____

II. DESCRIPTION OF CONTRACT:

During the contract performance being evaluated, this firm was the:

- Prime Contractor; Significant Subcontractor; Team Member; Other (Describe)

Does anything other than a customer/supplier relationship exist between the firm being evaluated and your organization?

- No Yes If yes, please describe the nature of this relationship:

III. EVALUATOR:

Name: _____

Title: _____

Organization: _____

Address: _____

Telephone No.: _____ Fax No.: _____

e-mail address: _____

SEND TO: ATTN: 126/R. TODD LACKS
 NASA LANGLEY RESEARCH CENTER
 MAIL STOP 126
 HAMPTON, VA 23681-2199
 TELEPHONE: 757-864-2477
 FAX: 757-864-7898
 E-mail: r.t.lacks@larc.nasa.gov

This form contains Source Selection Information when completed. See FAR 3.104.

IV. PERFORMANCE

A. Please rate the Contractor's technical performance in the following areas:

| | | | | | | |
|---|---|----|---|---|---|-----|
| • Meeting contract requirements | E | VG | G | F | P | N/A |
| • Qualifications of technical staff | E | VG | G | F | P | N/A |
| • Cooperation with customers | E | VG | G | F | P | N/A |
| • Timeliness | E | VG | G | F | P | N/A |
| • Change handling | E | VG | G | F | P | N/A |
| • Ability to work independently | E | VG | G | F | P | N/A |
| • Responsiveness | E | VG | G | F | P | N/A |
| • Documentation | E | VG | G | F | P | N/A |
| • Use of tools, equipment, methodologies, information etc. | E | VG | G | F | P | N/A |
| • Innovativeness | E | VG | G | F | P | N/A |

B. Please rate the Contractor's technical management in the following areas:

| | | | | | | |
|---------------------------------|---|----|---|---|---|-----|
| 1. Utilization of personnel | E | VG | G | F | P | N/A |
| 2. Effectiveness of management | E | VG | G | F | P | N/A |
| 3. Compliance with the contract | E | VG | G | F | P | N/A |
| 4. Personnel management | E | VG | G | F | P | N/A |
| 5. Phase-in | E | VG | G | F | P | N/A |
| 6. Management of diverse tasks | E | VG | G | F | P | N/A |
| 7. Work control | E | VG | G | F | P | N/A |
| 8. Reporting | E | VG | G | F | P | N/A |
| 9. Corporate Support | E | VG | G | F | P | N/A |
| 10. Local management autonomy | E | VG | G | F | P | N/A |

C. Please rate the Contractor's business management in the following areas:

| | | | | | | |
|----------------------|---|----|---|---|---|-----|
| 1. Cost Control | E | VG | G | F | P | N/A |
| 2. Labor Relations | E | VG | G | F | P | N/A |
| 3. Reporting | E | VG | G | F | P | N/A |
| 4. Procurement | E | VG | G | F | P | N/A |
| 5. Subcontracting | E | VG | G | F | P | N/A |
| 6. Meeting SDB goals | E | VG | G | F | P | N/A |

V. RELEVANT EXPERIENCE

| | RELEVANT EXPERIENCE | | | |
|-------------------|---------------------|----------|---------|---------------|
| | Significant | Moderate | Minimal | Not Performed |
| Gas Reclamation | | | | |
| Gas Compression | | | | |
| Liquid Nitrogen | | | | |
| Wind Tunnel Ops | | | | |
| Lg. Drive Systems | | | | |
| Equipment Maint. | | | | |
| System Mods. | | | | |
| Logistics | | | | |

VI. COMMENTS

PLEASE COMMENT ON CONTRACTOR PERFORMANCE IN THE FOLLOWING AREAS:

1. Would you recommend this contractor for another contract? YES NO, Why? _____

 2. Comment on staffing stability in critical skill areas and supervisory positions. _____

 3. Overall cost management _____

 4. Award Fee/ Incentive Fee Performance _____

 5. Additional Comments _____

-

ATTACHMENT 2
FACILITY DESCRIPTIONS

ATTACHMENT 2

PART B - DESCRIPTIVE SYNOPSIS OF MAJOR RESEARCH FACILITIES

FACILITY NO. 648 - TRANSONIC DYNAMICS TUNNEL

The Transonic Dynamics Tunnel (TDT) is a unique "national" facility that is used almost exclusively for performing aero-elastic research and for conducting flutter-clearance and other aero-elastic-verification tests of Department of Defense, Industry, and NASA fixed-wing and rotary-wing flight vehicles and launch vehicles. Semi-span side-wall-mounted models and full-span sting-mounted or cable-mounted models can be used. In addition, a rotorcraft test-bed is available for rotor-blade load research. The TDT is a continuous-flow, variable-pressure, wind tunnel with a 16-ft by 16-ft test section. The tunnel uses either air or a heavy gas as the test medium and can operate at Mach numbers up to about 1.2 at pressures ranging from 50 to 2,000 psfa. Standard atmospheric pressure is 2,116 psfa, which means the TDT operates at sub-atmospheric pressures.

The drive system consists of a two-speed range wound-rotor induction motor directly connected to a fan, which may be considered as a single stage compressor. The fan speed ranges are 24 to 235 rpm for operation in Heavy Gas and 48 to 470 rpm for operation in air. Motor speed is automatically controlled by the use of a liquid rheostat and eddy current brake. At the maximum rpm in each speed range, the shaft output is 30,000 horsepower, continuous rating.

The major components of the Heavy Gas Handling System consists of six Dressor Rand Blowers, each 8,500 cfm driven by three 1,500 HP electric motors, used to evacuate the tunnel. Also a 5-stage six cylinder reciprocating Clark compressor rated at 8,500 cfm, driven by a 3,500 HP electric motor, used to re-process the heavy gas in conjunction with two Low Temperature Condensers, Cold Box-1 and Cold Box-2. There is a liquid storage tank capable of holding up to 180 tons of heavy gas ensuring the capacity of filling the 1,000,000 ft³ of tunnel circuitry. Two 6,000-gallon liquid nitrogen storage tanks are part of the Cryogenic Cold Box system.

Associated with these various systems are vaporizers, cooling water, lubricating and seal oil systems, pneumatic, steam, hydraulic, filters, relief valves, pressure control valves and a large assortment of smaller pumps and motors.

FACILITY NO. 1235 – FREQUENCY CONVERTER BLDG.

In Bldg. 1235 there are four Variable Frequency Converters (See Fig. 3) that can be operated in three different configurations: Variable Frequency Converter Configuration #1 supplies AC power over a range of frequencies from 10-120 hertz (hz). This converter pair (F and G) is normally used with feeder "Q" in support of the Cryo Tunnel main drive motor. Variable Frequency Converter Configuration #2 uses frequency converter set "C and D" and feeder "S" to support the Scramjet facility in Bldg. 1247B. Variable Frequency Converter Configuration #3 uses all four converter sets (C,D,F, and G) to support additional requirements as needed through feeder "T". The primary power source for this equipment is obtained from Taylor Road Sub-station; nominally 6.6 KV 3-phase 60 hz. Each converter pair has a self-lubricating synchronous motor driving a pair of DC generators. Control of the DC generator output provides variable voltage control to the DC motors that drive one or more frequency converters. This method controls both the speed and output power of the converter set. Electronic speed regulators are used to regulate the frequency, limit DC loop current during speed changes, and provide for parallel operation of other converter sets. Electronic voltage regulators function to regulate the voltage to the 250 VDC bus. The output is used for primary and auxiliary power to control the large DC drive motors

at the 0.3 Meter Cryo Tunnel in Bldg. 1242 and/or the Scramjet Facility located in Bldg. 1247. A substantial bank of batteries supplies the control voltage (125 VDC) for all switchgear and breaker operation. The breakers for individual feeder lines are controlled in the facility by control switches that are located on the main board in the control room.

FACILITY NO. 1241 – DRIVE CONTROL FACILITY

The Drive Control Facility, Bldg. 1241, supports facility operations at the 16 Foot Transonic Tunnel (16FTT) (E.C. 21), Bldg. 1146, and at the National Transonic Facility (NTF) (E.C. 99), Bldg. 1236. The electrical machines located within the Drive Control Facility that provide this support are one constant-speed motor-generator (M-G) set, two variable-speed M-G sets, and the supporting equipment necessary to safely control all the machines. Each of the three M-G sets consists of a synchronous motor and a set of DC generators. The synchronous motors are made to function as AC machines, either converting input electrical frequency to output shaft speed for driving the DC generators, or converting input shaft speed to output electrical frequency for control of the tunnel drive motor speed. The DC generators are used to regulate shaft speeds between M-G sets. This type of drive control configuration, in which two variable-speed M-G sets and one constant-speed M-G set are used for speed control, is known as the Kramer Drive. See Figure 4. for the Kramer Drive arrangement used at the Drive Control Facility. There are two types of support provided by the Drive Control Facility. The first is to provide electrical power and/or speed regulation for the two tunnel drive motors located in the 16FTT, or the three tunnel drive motors located in the NTF. The tunnel drive motors in both the 16FTT and the NTF drive the propeller fans which are located within those facilities for air flow generation. The second type of support is as the primary remote control station for the Air Removal System (ARS), used to remove boundary layer air from the 16FTT. The Yorktown Road Substation, Bldg. 1243, located directly behind the Drive Control Facility, is the primary power source for the facility. The main power sources are two 6900 VAC, 3-phase busses. One 6900 VAC, 3-phase, bus is connected to the constant-speed M-G set and the 6900/2300 VAC step-down transformer located in the Drive Control Facility, the two tunnel drive motors located in the 16FTT, and the two tunnel motors located in the NTF. The other 6900 VAC, 3-phase, bus is connected to the ARS control panels located in the Drive Control Facility, the ARS wound-rotor drive motor located in the 16FTT, Bldg. 1146A, and the synchronous motor located in the NTF. A 2300 VAC, 3-phase, bus supplied from the 6900/2300 VAC step-down transformer is connected to the rest of the drive control machinery. The remaining drive control support equipment is powered by the 125 VDC battery bank, located within the Drive Control Facility, and the 440 VAC, 3-phase, bus supplied by the Frequency Converter Building, Bldg. 1235. For minimum starting power consumption, the constant-speed M-G set is started first. The variable-speed M-G sets are then brought up to synchronous speed by driving them from their DC generator ends. The slip rings of the tunnel drive motors, located in either the 16FTT or the NTF, are then energized by applying electrical current to the rotor of the synchronous motors of the variable-speed M-G sets. The tunnel drive motors are synchronized with the 6900 VAC, 3-phase, bus by closing the line circuit breaker. All synchronization is accomplished by using a synchroscope and an automatic synchronizer. The tunnel drive motors are wound rotor motors, and their speed is controlled by the amount of current in their rotor circuit. The current in the tunnel drive motors rotor circuit is controlled by the load on the synchronous motors of the variable-speed M-G sets, which are placed in the tunnel drive motors rotor circuit. The variable-speed M-G sets synchronous motor loads are the two DC generators of the variable-speed M-G sets. The NTF cooling water system is used to supply cooling water to the Drive Control Facility, as well as to the 0.3-Meter Cryogenic Tunnel, Bldg. 1242 (E.C. 34). Cooling water interfaces with the drive control equipment both directly and indirectly. In the direct interface, the cooling water is circulated through the bearings adjacent to the AC machines of the constant-speed M-G set, and of the two variable-speed M-G sets, located in the facility. In the indirect interface, the cooling water is passed through two heat exchangers, located in the basement of the facility, which are used to cool the air flow that takes heat away from the drive control equipment. The cooling water is circulated through the Cooling Tower, Bldg. 1236B, and the cooling water system controls (i.e., pumps, motors, switchgear, etc.) are

located in the Mechanical Equipment Building, Bldg. 1236C, located behind the NTF. The controls and visual displays associated with power distribution, drive control, and cooling water are located in panels 312 through 318 that form a benchboard in the Control Room, Room 202 at the Drive Control Facility. The regulators, automatic control devices, and protective equipment are located in a duplex switchgear which is also located in the Control Room. High voltage switching devices are located in the 6900, the 2300, and the 440 volt switchgear located throughout the facility. In addition to providing electrical power and speed regulation to the tunnel drive motors, the Drive Control Facility is also used as the primary remote control station for the ARS, located in Bldg. 1146A. The ARS is used to remove boundary layer air from the 16FTT so that the tunnel can operate at higher supersonic speeds. Control of the ARS is from a liquid rheostat placed across the rotor circuit of a wound-rotor drive motor, located in Bldg. 1146A. The liquid rheostat controls the speed of the motor, which in turn controls the amount of boundary layer air removed by the ARS. The controls associated with the ARS are located in panels 1F through 5F, in the Control Room of the Drive Control Facility. These panels control primarily the electrical power, valve operation, and speed regulation associated with the ARS. The Drive Control Facility can support the NTF with five modes of operation, and the 16FTT with one mode of operation. If the NTF is operated in the Kramer Mode or the Kramer/Synchronous Motor Mode, the two primary modes of operating the NTF, then the 16FTT can not be operated because its only mode of operation is the Kramer Mode. However, if the NTF is operated in the Liquid Rheostat No. 1 Mode, the Liquid Rheostat No. 2 Mode, or the Liquid Rheostat No.2/Synchronous Motor Mode, then the 16FTT can be operated in the Kramer Mode, allowing for simultaneous operation of the NTF and the 16FTT. The Liquid Rheostat No. 1 Mode is used primarily for cooling down and warming up of the NTF. The Liquid Rheostat No. 2 Mode and the Liquid Rheostat No. 2/Synchronous Motor Mode provide enough drive control to support test runs at the NTF. If the Drive Control Facility is not operational, then the 16FTT can not be operated. However, the Drive Control Facility can simultaneously provide the 16FTT with drive control support and ARS operations.

FACILITY NO. 1247B - 20-INCH MACH 17 NITROGEN TUNNEL

The 20-Inch Mach 17 Nitrogen Tunnel is a blow-down to vacuum operation wind tunnel that uses heated nitrogen as the test gas. The 20-Inch Mach 17 Nitrogen Tunnel provides the highest Mach number capability in the country for conventional type hypersonic wind tunnel using a diatomic (air-like) test gas. This facility simulates the viscous interaction phenomena associated with high altitude hypersonic flight. Because of the relatively low flow rates and large 100' vacuum sphere volume this facility can run for up to 60 minutes which makes it ideally suited for detailed intrusive and non-intrusive flow field measurements. Note; 100' sphere is a shared facility within B-1247 Complex. This facility is equipped with state-of-the-art instrumentation and data acquisition systems(DAS) with 128 data channels and 30000 gigabytes of storage. Major support equipment include 6000 gallon liquid nitrogen storage tank, associated evaporators, compressor, piping, valves, and regulators to deliver gaseous nitrogen pressures up to 20000 psia (15000 psia stagnation pressure s), electrical resistance heater delivering 4000 degrees F., axially symmetric contoured nozzle opening up to a 20 in² test section, and a 3000 psi hydraulic model injection system,

FACILITY NO. 1247B - 3-INCH HELIUM CALIBRATION FACILITY

The 3-Inch Helium Calibration Facility is a hypersonic blow-down tunnel that utilizes pure high-pressure helium as the test medium. It is used primarily for calibrating the instrumentation used in the 60-Inch Mach 18 Helium Tunnel. It has a maximum stagnation pressure of 2500 psia, uses the same 5500 psi helium supply located outside and behind Building 1247 as the 60-Inch Mach 18 Helium Tunnel and exhausts into the same vacuum system. The helium is reclaimed after each run. Several different nozzles are available to change the Mach number of the helium flow

in the tunnel. The one most often used is a 5-degree conical axisymmetric nozzle which expands the helium flow to approximately Mach 20. The core size of the 5-degree nozzle is approximately one inch in diameter. Mach 4 and Mach 10 contoured nozzles are also available which will simulate the Mach number-Reynolds number conditions in the boundary layer of the 4-degree wedge model used in the 60-Inch Mach 18 tunnel. The Mach 4 and Mach 10 nozzles utilize the same 3-inch diameter test section as the 5-degree nozzle, and the useable core size is approximately the same. The run time for this 3-Inch tunnel is generally considered to be continuous, but at higher stagnation pressures the pumps cannot keep up with the flow so the run time is limited. Major support equipment include a purification station using liquid nitrogen for cooling and activated carbon and activated alumina for moisture removal and two 6000 gallon nitrogen storage tank.

FACILITY NO. 1247B - MACH 18 QUIET HELIUM TUNNEL

The Mach 18 Quiet Helium Tunnel operates with purified helium as a test medium for three primary reasons: 1) helium is a perfect gas; 2) high Mach numbers are attainable without liquefaction of the medium; and 3) High Reynolds numbers are attainable at high Mach numbers. Tests are run in a blow-down mode (test duration up to a maximum of 40 seconds) by exhausting helium from storage (36-bottles at 4625 psia and a volume of 1100 ft³), through heaters for heat transfer runs only (stagnation temperatures up to 600 F), into a stagnation chamber (stagnation pressures of 300-3000 psia), through a contoured nozzle, through the test section and a two-dimensional diffuser, and into two 60-foot vacuum spheres. The cycle is completed by evacuation of the spheres and pressurization, purification, and storage of the helium. The tunnel utilizes an auxiliary vacuum pump for evacuating the tunnel for instrument calibration and equalizing pressure between sphere and test section. The tunnel uses the 18A bottlefield(max pressure 4625 psia) for helium storage.

The Cooper Bessemer 7000 psia compressor is used to reclaim the helium exhausted into the two, 60 ft Spheres with option of four, 60 ft spheres for longer runs. The vacuum system for evacuating the spheres are located in the basement of 1247B and are capable of pumping 4.5mmhg/minute. The tunnel is of the quiet design that has an annular ring attached to the settling chamber that pulls the turbulent boundary layer out of the settling chamber and exhaust into 2 of the 60 ft spheres, this gives the tunnel flow it's quiet characteristic.

Major support equipment includes a purification system using liquid nitrogen for cooling, activated carbon and activated alumina for moisture removal and a 6000 gallon liquid nitrogen storage tank.

There is also focusing schlieren and electron beam capabilities for flow visualization.

FACILITY NO. 1247B WEST WING – HYPERSONIC FACILITIES COMPLEX

The 22-Inch Mach 20 Helium Tunnel, located in the Hypersonic Facilities Complex West Wing, is a blow down to vacuum operation wind tunnel. It is the only light gas hypersonic wind tunnel in the country and provides the nation's highest Mach and Reynolds number capability. Interchangeable precision machined, CFD designed, axisymmetric contoured nozzles and a five-micron filter provide clean Mach 20 flow. The facility is generally operated with unheated helium but can be operated with heated helium for aero-heating studies. It is ideally suited for rapid inexpensive parametric studies using models fabricated from low temperature materials such as wood or plastic, which would be destroyed in higher temperature hypersonic tunnels. The helium test gas is collected and purified for reuse to minimize cost of gas.

This facility is equipped with state-of-the-art instrumentation and data acquisition systems (DAS) with 128 data channels and 30000 giga bytes of storage. Major support equipment include a

Beech-Russ type vacuum pumping systems, vacuum blowers, two 60-foot storage spheres, 36 bottle helium storage field supplying 1100 ft³ at 4,625 psia, stagnation chamber pressures to 3000 psia, electrical resistance heater supplying up to 600 degrees F., a 22 in² test section, 3000 psi hydraulic model injection system, and a two dimensional diffuser.

FACILITY NO. 1251 - UNITAY PLAN WIND TUNNEL (UPWT)

The Unitay Plan Wind Tunnel (UPWT) is a compressor driven, closed circuit, continuous flow, pressure wind tunnel that provides continuous variation in Mach number over the range 1.5 to 4.6. It has two test sections 4' x 4' x 7' that utilizes a sliding block to obtain and maintain a Mach range of 1.5 to 2.8 in test section one and 2.5 to 4.6 in test section two. Continuous variations of Mach number over a Reynolds number range of 1 to 7 million per foot is unequaled elsewhere for a supersonic wind tunnel and the flexibility of two test sections make this facility a very desirable test site for Government and private industry.

The UPWT has a 125' main drive that utilizes a 20,000 HP induction motor and a 63,000 HP synchronous motor to rotate 6 large centrifugal compressors at a speed of 3600 RPMs during research operations. Various stages of compression, called modes, are obtained and maintained by a 600PSI hydraulic system that is utilized to operate compressor guide vanes, by-pass valves and 13 large configuration butterfly type valves.

The UPWT utilizes a 12,500 CFM compressor to supply facility high pressure air for pressure operations. Air is taken from the atmosphere, pumped through a large dryer system and is stored at a pressure of 150 PSI in 3 storage spheres with a capacity of 45,000 ft³. The facility flow, through the test sections, is always started at a low vacuum and some research operations are performed at a vacuum pressure. Six (6) large vacuum pumps and the 12,500 CFM compressor are utilized to obtain and maintain pressures below atmosphere.

The UPWT utilizes a large 8 cell cooling tower to supply cooling water to the facility. Twelve (12) large water pumps supply cooling to 6 large coolers that are utilized to maintain tunnel stagnation temperatures of 125 F° for lower Mach numbers and 150 F° for high Mach numbers. Three (3) smaller water pumps are utilized to furnish cooling water to support auxiliary equipment.

The UPWT is the second largest facility located at the Langley Research Center and is unique in the respect that all tunnel circuits, drive equipment, compressors, vacuum pumps, coolers and most support equipment are inside, out of the weather. Most all electrical equipment that is original to this 45 year old facility is Westinghouse and the 5 Roots Connerville Compressors on the facility main drive are unique.

FACILITY NO. 1265A-E - 8-FOOT HIGH TEMPERATURE TUNNEL

The 8-Foot High Temperature Tunnel is a hypersonic blow-down tunnel that conducts tests of hypersonic propulsion systems, flight-weight structure hardware, and detailed aero-thermal loads at true temperatures of flight at Mach 4, 5, and 7 for altitudes between 60,000 and 130,000 feet. True temperature conditions are achieved by the combustion of methane and air at maximum pressures of 4000 psia and maximum temperatures of 4000 deg R. in a 30-ft long combustor. The combustion gases are expanded into an 8-foot diameter nozzle where research testing is conducted. For propulsion tests, additional oxygen is added to the facility combustor from a 2200 psia LOX supply system and fuel is provided to the propulsion model from 2400 psia hydrogen and silane supply systems. Major support equipment include: 28,000 gallon liquid oxygen low pressure storage tank, 8,000 gallon oxygen tank at 2000 psia, four 3000 psia hydraulic systems, cooling water & tower, 12 each 6000 psi air storage bottles with a total volume of 14,200 cubic feet, 6000 psi gaseous nitrogen storage bottlefields, liquid nitrogen storage vessels, 800 & 1600

cubic ft methane tanks at 6000 psia, four hydrogen tube trailers at 2400 psia, pyrophoric Silane at 2300 psia via a portable tube trailer (as needed). All waste gases are vented and combusted at the top of a flare stack.

FACILITY NO. - WEST AREA HIGH PRESSURE AIR SYSTEM

The West Area High Pressure Air System is comprised of three (3) major subsystems integrated such as to operate as one large and flexible air supply system. The three major subsystems are: Air Compression, Air Storage, and Air Distribution. The air compression subsystem consists of two (2) 6000, three (3) 5000, one (1) 350, and two (2) 110 psi compressors. The air storage subsystem consists of one (1) 6000, two (2) 5000, one (1) 4250, and one (1) 600 psi tank farm(s). The 350 and 110 psi compressors feed directly into the air distribution subsystem. The air distribution system consists of all the pipes, valves, regulators, relief valves, etc., that are used to distribute air to the various research facilities. The cutoff point for the air distribution system is the first isolation valve at the utilization facility.

ATTACHMENT 4

HISTORICAL LISTING OF NITROGEN DELIVERY SITES AND QUANTITIES

FY '97 NITROGEN DELIVERY HISTORY

| <u>Month</u> | <u>Deliveries</u> | | <u>Gallons Delivered</u> |
|--------------|-------------------|------------------|--------------------------|
| | <u>On-site</u> | <u>Off-site*</u> | |
| October | 50 | 6 | 9,683 |
| November | 33 | 6 | 10,492 |
| December | 70 | 4 | 12,353 |
| January | 59 | 8 | 13,170 |
| February | 42 | 5 | 6,578 |
| March | 75 | 9 | 9,160 |
| April | 55 | 7 | 8,942 |
| May | 45 | 7 | 7,859 |
| June | 73 | 6 | 13,344 |
| July | 55 | 8 | 12,856 |
| August | 53 | 9 | 11,569 |
| September | 53 | 8 | 10,263 |

* Within \approx 1-mile radius of LaRC

ATTACHMENT 5
ACRONYMS AND DEFINITIONS

Acronyms and Definitions

Throughout the Statement of Work, there are a number of references made to various systems, processes, and associated abbreviated descriptions. There are terms that have been used which will require further definition. The purpose of this section is to provide those definitions and document references.

ASME - American Society of Mechanical Engineers
AZMM - Assistant Zone Maintenance Manager
CMTS - Chemical Materials Tracking System
EPA - Environmental Protection Agency
IOP - Integrated Operating Plans
LaRC - Langley Research Center
LAPG - Langley Procedures and Guidelines
LHB - Langley Handbook
NASA - National Aeronautics and Space Administration
OSHA - Occupational Safety and Health Administration
PCBs - Polychlorinated Biphenyls
TAM - Technical Area Monitor
ZMM - Zone Maintenance Managers
ERT - Emergency Response Team
MSDS - Material Safety Data Sheet

Definitions of Terms Used

Change Notification Sheet (CNS) - NASA Langley Form 127 prepared by LaRC personnel and processed by contractor personnel. It is used to record all changes to be made to Facility Baseline List (FBL) listed CCD documents.

Checklist - An abbreviated set of written instructions for operating a facility. Checklists are derived from Standard Operating Procedures (SOPs) and contain sufficient detail to enable safe operations by the most experienced operator personnel. Checklists are controlled under the CM Program.

Configuration Management (CM) - A discipline which establishes a baseline for a facility's select technical and administrative documents, and exercises administrative control of all changes to that baseline.

Configurations Controlled Documents (CCDs) - Those facility baseline documents that are considered critical to describing how a facility is configured, how it is to be operated, and what risks are associated with its operation. CCDs are revised only through a formal change process under the Configuration Management (CM) program.

Facility Coordinator (FC) - An individual appointed to coordinate the overall day-to-day operations of an LaRC facility. This individual uses assigned facility personnel, and additional support personnel, as available, to accomplish requirements of the Safety Manual.

Facility Safety Head (FSH) - An appointed individual who is responsible for providing team direction, obtaining required support from knowledgeable research personnel, and approving all Configurations Controlled Documentation affecting the facility.

Research Facility - a ground-based apparatus or equipment directly associated with research operations, and sufficiently complex or hazardous to warrant special safety analysis and control.

Safety Analysis Report (SAR) - A report under the control of the CM Program which documents the formal Facility System Safety Analysis of a particular research facility.

Standard Operating Procedures (SOP's) - Detailed, written, step-by-step instructions to be routinely followed in operating a facility.

Problem/Failure Report - NASA, Langley Report Form 184 which reports on the inability of a system, subsystem, component, part, or material to perform in accordance with specifications, functional test, or operational procedure requirements or expectations.

Test/Task Request (TTR) - The form by which work is requested and tracked at the NTF. This form and process are utilized as a safety tracking and approval method for pre-tunnel operations, and as a project management tool.

Material Safety Data Sheet (MSDS) - Documentation information that must accompany any substance/material that is consumed or utilized at the facility for which there is a potential for personal harm.

Contracting Officer Technical Representative (COTR) - The technical representation of the Contracting Officer and is the liaison between the Government and the contractor. He is also responsible for evaluating and monitoring contractor performance.

Computerized Maintenance Management System (CMMS) - A system used to collect data for decision-making.

ATTACHMENT 6

INTERNET ADDRESSES (URL'S) FOR LANGLEY HANDBOOKS (LHB'S),
LANGLEY PROCEDURES AND GUIDELINES (LAGP'S),
LANGLEY PROCEDURE DIRECTIVES (LPD'S), AND
NASA MANAGEMENT INSTRUCTIONS (NMI'S)

ATTACHMENT 6

Internet Addresses for LHB's, LAPG's, LPD's, and NMI's

| | |
|--|--|
| Langley Directives Management System | http://ldms.larc.nasa.gov/ldms.home.html |
| LAPG 1710.10, <i>Safety Clearance Procedures (Red Tag)</i> 11/96 | http://ldms.larc.nasa.gov/h1710-10.pdf |
| LHB 1710.12, <i>Potentially Hazardous Materials</i> 5/92 | http://ldms.larc.nasa.gov/h1710-12a.pdf http://ldms.larc.nasa.gov/h1710-12b.pdf http://ldms.larc.nasa.gov/h1710-12c.pdf |
| LHB 1710.40, <i>Safety Regulations Covering Pressurized Systems</i> 11/88 | http://ldms.larc.nasa.gov/h1710-40a.pdf http://ldms.larc.nasa.gov/h1710-40b.pdf |
| LHB 1740.2, <i>Facility Safety Requirements</i> 9/94 | http://ldms.larc.nasa.gov/h1740-2a.pdf http://ldms.larc.nasa.gov/h1740-2b.pdf http://ldms.larc.nasa.gov/h1740-2c.pdf |
| LHB 1740.3, <i>Facility Safety Head and Facility Coordinator Guide</i> 7/83 | http://ldms.larc.nasa.gov/h1740-3.pdf |
| LHB 1740.4, <i>Facility System Safety Analysis and Configuration Management</i> 3/92 | http://ldms.larc.nasa.gov/h1740-4.pdf |
| LAPG 8800.1, <i>Environmental Program Manual</i> 3/98 | http://ldms.larc.nasa.gov/h8800-1a.pdf http://ldms.larc.nasa.gov/h8800-1b.pdf http://ldms.larc.nasa.gov/h8800-1c.pdf http://ldms.larc.nasa.gov/h8800-1d.pdf http://ldms.larc.nasa.gov/h8800-1e.pdf http://ldms.larc.nasa.gov/h8800-1f.pdf http://ldms.larc.nasa.gov/h8800-1g.pdf http://ldms.larc.nasa.gov/h8800-1h.pdf |
| LPD 3792.3, Drug-Free Workplace | http://ldms.larc.nasa.gov/lmi3792-3.txt |
| NMI 3792.3B, NASA Plan for Drug-Free Workplace | http://nodis.gsfc.nasa.gov:80/Library/Directives/NASA-WIDE/Policies/Human_Resources_and_Personnel/N_MI_3792_3B.html |

ATTACHMENT 7
SAMPLE MONTHLY POWER REPORT
(JULY 1998)

| |
|-----------------------|
| Meter Readings |
|-----------------------|

| Tunnel | Meter # | Last Months | This Months | Multiplier | KWH Used |
|---------------|----------------|--------------------|--------------------|-------------------|-----------------|
| 16 FT | 42 | 2496.3 | 2500.8 | X10,000 | 45,000 Kwh |
| N.T.F. & | 169 | 2471.2 | 2471.2 | X10,000 | 0 Kwh |
| Sync | 180 | 860.8 | 860.8 | X1000 | 0 Kwh |
| A.R.S. | 43 | 4314.2 | 4316.2 | X10,000 | 20,000 Kwh |
| T.D.T. | 74 | 9725.2 | 9995.5 | X1000 | 270,300 Kwh |
| | 75 | 4533.8 | 4574.9 | X10,000 | 411,000 Kwh |
| Unitary | 18 | 6794.2 | 6954.5 | X10,000 | 1,603,000 Kwh |
| | 19 | 8639.7 | 8735.8 | X10,000 | 961,000 Kwh |
| 31 Inch | 20 | 969.3 | 971.6 | X10,000 | 23,000 Kwh |
| Mach 10 | 21 | 3032.5 | 3037.9 | X10,000 | 54,000 Kwh |
| 14X22 FT | 177 | 2905.7 | 2963 | X10,000 | 573,000 Kwh |
| | 185 | 1220 | 1226.3 | X1200 | 7,560 Kwh |

July 1998 **Total Power Used:** **3,967,860 Kwh**

| |
|--|
| Power Report for Month of July 1998 |
|--|

| Facility | Job Order | K.W. Used | Total K.W.H. | Run Time J.O. | Total Time |
|--|-----------|-------------|--------------|---------------|------------|
| 31" Mach 10 | R19554 | 77,000 Kwh | | 0 : 0 | |
| | | | | | |
| | | | 77,000 Kwh | | 0 : 0 |
| | | | | | |
| T.D.T. | R23065 | 622,00 Kwh | | 40 : 56 | |
| | R23060 | 59,300 Kwh | | 6 : 19 | |
| | | | | | |
| | | | 681,300 Kwh | | 47 : 15 |
| | | | | | |
| 14 X 22 FT | H15297 | 575,560 Kwh | | 146 : 10 | |
| | R22998 | 5,000 Kwh | | 50 | |
| | | | | | |
| | | | 580,560 Kwh | | 147 : 0 |
| <p>Total Monthly Power Used: <u>3,967,860 Kwh</u></p> <p>Total Monthly Run Time: <u>269</u> Hrs <u>51</u> Mins</p> | | | | | |

| |
|--|
| Power Report for Month of July 1998 |
|--|

| Facility | Job Order | K.W. Used | Total K.W.H. | Run Time J.O. | Total Time |
|----------|-----------|---------------|------------------|---------------|------------|
| NTF | Shutdown | 0 Kwh | | 0 : 0 | |
| | | | | | |
| | | | 0 Kwh | | 0 : 0 |
| | | | | | |
| 16 Foot | | | | | |
| | R22960 | 45,000 Kwh | | 1 : 36 | |
| | | | | | |
| | | | 45,000 Kwh | | 1 : 36 |
| | | | | | |
| A.R.S. | | | | | |
| | R22960 | 20,000 Kwh | | 42 | |
| | | | | | |
| | | | 20,000 Kwh | | 0 : 42 |
| | | | | | |
| Unitary | R22908 | 1,382,000 Kwh | | 45 : 18 | |
| | R23662 | 1,182,000 Kwh | | 28 : 0 | |
| | | | | | |
| | | | 2,564,000 Kwh | | 73 : 18 |

ATTACHMENT 8
SAMPLE CHANGE NOTIFICATION SHEET

CHANGE NOTIFICATION SHEET

| | | | |
|--------------|------------|-----------|------|
| BUILDING NO. | ORIGINATOR | EXTENSION | DATE |
|--------------|------------|-----------|------|

| | |
|---------------|-------------|
| FACILITY NAME | EFFORT CODE |
|---------------|-------------|

| |
|-----------------------|
| DESCRIPTION OF CHANGE |
| |
| |
| |
| |
| |
| |
| |
| |
| |

FACILITY BASE LINE DOCUMENTS AFFECTED:

| DOCUMENT NUMBER | REV. | TITLE | Maintained | |
|-----------------|------|-------|------------|-----|
| | | | CCD | SFD |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

APPROVALS

| | | | |
|--------------------------------------|------|----------------------|------|
| SAFETY MANAGER | DATE | FACILITY COORDINATOR | DATE |
| FACILITIES CONFIGURATION COORDINATOR | DATE | FACILITY SAFETY HEAD | DATE |

| | | | |
|--|---|--|--------------------------------------|
| <p>DOES THIS CHANGE AFFECT SAFETY?</p> <p><input type="checkbox"/> YES <input type="checkbox"/> NO</p> | <p>CHANGE VERIFICATION</p> <p>_____</p> <p>CM CONTRACTOR DATE</p> | <p>CNS INCORPORATED</p> <p>_____</p> <p>CM CONTRACTOR DATE</p> | <p>CHANGE NUMBER</p> <p>SHEET OF</p> |
|--|---|--|--------------------------------------|

NASA Langley Form 127 (Rev. April 1987)
Prescribing Document LHB 1740.4

Previous editions are obsolete

ATTACHMENT 9

LISTING OF CRITICAL RESERVE ITEMS AND MINIMUM STOCKING LEVELS

| Bldg. # | Description | Part. # | Quantity |
|--------------|--|----------------------|----------|
| 1247B | Rix compressor | | |
| | 1 st & 2 nd stage valve disc | 15-306-1 | 12 |
| | 1 st & 2 nd stage valve disc | 15-307-1 | 12 |
| | 1 st & 2 nd stage valve seat | 15-B1401 | 12 |
| | 1 st & 2 nd stage valve spring | 24-18 | 50 |
| | 1 st stage valve cover gasket | 16-150 | 20 |
| | 1 st stage valve cover O ring | 123-1142 | 20 |
| | 1 st stage disch valve cover G | 16-151 | 20 |
| | 3 rd stage S & D spring plate | 15B2059-5 | 20 |
| | 3 rd stage S & D valve plate | 15B2059-4 | 20 |
| | 3 rd stage Suct valve O ring | 123-0402 | 20 |
| | 3 rd stage Disch valve O ring | 123-0372 | 20 |
| | 3 rd stage Suct valve seat | 15-B1850 | 20 |
| | 3 rd stage Disch valve seat | 15-B1851 | 20 |
| | 4 th stage Suct valve spring | 24-21 | 50 |
| | 4 th stage S & D valve disc | 15-423 | 20 |
| | 4 th stage Suct valve seat | 15-A2368 | 20 |
| | 4 th stage Disch valve seat | 15-A2365 | 20 |
| | 4 th stage Suct valve O ring | 123-036-2 | 20 |
| | 4 th stage Suct valve B/U ring | 123-036-3 | 20 |
| | 4 th stage Disch valve O ring | 123-033-2 | 20 |
| | 4 th stage Disch valve B/U | 124-0333 | 20 |
| | 5 th stage Suct valve O ring | 123-0242 | 20 |
| | 5 th stage Suct valve B/U ring | 124-0243 | 20 |
| | 5 th stage Disch valve O ring | 123-0283 | 20 |
| | 5 th stage Disch valve B/U | 124-0283 | 20 |
| | 6 th stage Suct valve spring | 24-409 | 50 |
| | 6 th stage Disch valve spring | 24-403-9 | 50 |
| | | | |
| | Beach Russ Pump | | |
| | | | |
| | Rotary Seal Assy | 4B | 4 |
| | Valve Box Gasket | 6(G) | 4 |
| | | | |
| | Control Room | | |
| | | | |
| | Controller | 53MC5212A21BAXXXXXXX | 1 |
| | Faceplate | 698B179U01 | 1 |
| | | | |
| | Long Airdox Compressor | | |
| | | | |
| | Seal, Oil Vitron (581241) | 56284 | 2 |
| | Seal, Oil Vitron (582733) | 56285 | 2 |
| | Inlet Valve Assy 5 th 87H-1 | 54606 | 1 |
| | Discharge Valve Assy 5 th 87H-1 | 54798 | 1 |
| | Inlet Valve Assy 6 th 87H-1 | 54601 | 1 |
| | Discharge Valve Assy 6 th 87H-1 | 54602 | 1 |
| | Spring, 5 th -6 th Stage 1 | 54800 | 50 |

| | | | |
|-------|--|-------------|----|
| | Ring, 3 rd Stage | 581481 | 6 |
| | Ring, Piston Std-5 th | 581660 | 6 |
| | Ring, Piston Std-6 th Stg. | 581664 | 7 |
| | Spring 4 th stage | 581101 | 10 |
| | Spring, Discharge 4 th stage | 581093 | 20 |
| | Gasket | 581130 | 10 |
| | | | |
| | Roots Blower | | |
| | | | |
| | Repair Kit for 1639 RGS HVB Serial 51463 | RK16GCP00 | 1 |
| | Repair Kit for 1030 RGS HVB Serial 51466 | RK10VCP00 | 1 |
| | Repair Kit for 1021 RGS HVB Serial 51780 | RK10VVB00 | 1 |
| | | | |
| 1247E | Clark Air Compressors | | |
| | Compressors #1,2&3 | | |
| | | | |
| | 1st Stage | | |
| | Piston Rings | 001-323-093 | 2 |
| | Valves (suction) | PB-324C-54 | 6 |
| | Valves (discharge) | PB-196E-50 | 6 |
| | | | |
| | 2nd Stage | | |
| | Piston Rings | 001-323-057 | 2 |
| | Valves (suction) | PB-1565C-43 | 4 |
| | Valves (discharge) | PB-1565D-37 | 4 |
| | | | |
| | 3rd Stage | | |
| | Piston Rings | 001-315-052 | 3 |
| | Valves (suction) | PB-1566C-31 | 4 |
| | Valves (discharge) | PB-1566D-29 | 4 |
| | | | |
| | 4th Stage | | |
| | Piston Rings | 001-319-034 | 3 |
| | Valves (suction) | PB-335D-67 | 2 |
| | Valves (discharge) | PB-335C-66 | 2 |
| | | | |
| | 5th Stage | | |
| | Piston Rings | | |
| | Piston and Rod Assembly | PB-146A-220 | 1 |
| | Valves (suction) | PB-322D-9 | 2 |
| | Valves (discharge) | PB-3332E-9 | 2 |
| | Packing Box | | 1 |
| | Packing | | |
| | | | |
| | 6th Stage | | |
| | Piston Rings | | |
| | Piston and Rod Assembly | PB-334A-67 | |
| | Valves (suction) | PB-571F-6 | 2 |
| | Valves (discharge) | PB-571E-5 | 2 |
| | Packing Box | | 1 |
| | Packing | | 2 |

| | | | |
|-------------|-----------------------------|---------------|----|
| | | | |
| | Worthington Air Compressors | | |
| | Compressors #4,5&6 | | |
| | | | |
| | 1st Stage | | |
| | Piston and Rod Assembly | MLH85765G1 | 1 |
| | Piston Rings | 220010L22A | 4 |
| | Rider Rings | 220008X7A | 4 |
| | Valves (suction) | 234210H2 | 20 |
| | Valves (discharge) | 234210H1 | 16 |
| | | | |
| | 2nd Stage | | |
| | Piston Rings | RP12704 | 2 |
| | Valves (suction) | 233410D2 | 10 |
| | Valves (discharge) | 233410D1 | 10 |
| | | | |
| | 3rd Stage | | |
| | Piston Rings | RP11603 | 4 |
| | Valves (suction) | ML233000B52G1 | 6 |
| | Valves (discharge) | ML233000B51G1 | 6 |
| | | | |
| | 4th Stage | | |
| | Piston Rings | 220062BA25 | 4 |
| | Rider Rings | 220008AC1 | 2 |
| | Valves (suction) | 232120CB1 | 4 |
| | Valves (discharge) | 232120CB1 | 4 |
| | | | |
| | 5th Stage | | |
| | Piston and Rod Assembly | MLH58765DG1 | 1 |
| | Piston Rings | 220062BA25 | 4 |
| | Rider Rings | 220009AC1 | 3 |
| | Rod Packing Complete | 306410BP1 | 1 |
| | | | |
| | 6th Stage | | |
| | Piston and Rod Assembly | MLH58765EG1 | 1 |
| | Piston Rings | 2200062AB9 | 5 |
| | Rider Rings | 220031L23 | 1 |
| | Rod Packing Complete | 306410BR1 | 1 |
| | | | |
| 1265 & 1277 | Methane Compressors (2) | | |
| | Complete Overhaul Kit | | 2 |
| | Ring Set | | |
| | Oil Pump Gears | | 2 |
| | Valve Set | | 2 |
| | Gauges/Oil Filled | | 10 |
| | Oil Filters | | 2 |
| | Intake Filters | | 2 |
| | Separator Filters | | 2 |
| | | | |
| | Nitrogen Compressors | | |
| | Compressor #1 | | |

| | | | |
|------|--|------------------|---|
| | Seal Kits | | 3 |
| | Rupture Discs | | 6 |
| | Complete Pump | | 1 |
| | | | |
| | Compressor #2 | | |
| | Seal Kits | | 3 |
| | Rupture Discs | | 6 |
| | Complete Pump | | 2 |
| | | | |
| | Hydrogen Compressor | | |
| | Complete Overhaul Kit | | 1 |
| | | | |
| | | | |
| 1236 | Gage/Switch, ITT Barton 900O LN2 Area 0-25 H2O | 289 | 1 |
| | Switch, Position 900K LN2 Area | 20-25 | 1 |
| | Valve, Pressure Regulator P-11/12 | 3381-5 | 1 |
| | Transmitter, Intelligent 900K LN2 Area | 861GM-CDO-MP | 1 |
| | Transmitter, Intelligent 900K LN2 Area | 863DP-M2D1SS-MP | 1 |
| | Switch, Pressure 900K LN2 Area | B424B | 1 |
| | Switch, Differential 900K LN2 Area, P-11/12 | DPB 16 Q 20 | 1 |
| | Valve, Solenoid 900K LN2 Area, 24 VDC | EF8321G1 | 1 |
| | Switch, Position 900K LN2 Area | MQ 2VER2 | 1 |
| | Controller, Hytork Posi-Seal Valves | TPE 3722 | 1 |
| | Switch, Position 900K Area | Type 304 | 1 |
| | Actuator, for Posi-Seal 900K LN2 Area | Type 425 | 1 |
| | Controller, for Fisher Valve 900K LN2 Area | Type 5821 | 1 |
| | Actuator, Fisher Control Valve 900K Vaporizer | Type 667 | 1 |
| | Actuator, for Posi-Seal Send Out Valve | Type 680 | 1 |
| | Valve, Regulator 900K LN2 Area | Type Y690 | 1 |
| | Disc, Rupture 1" 106 PSI @ 72 Deg F | | 1 |
| | Disc, Rupture 106 PSI @ 72 Deg F | | 1 |
| | Gage, Level (Feet) | | 1 |
| | Packing, Fisher Control Valve | | 1 |
| | Pump, Fan Bearing Lift | | 1 |
| | Pump, IGV Control Sys | | 1 |
| | Slim Pack, LN2 Field Box | | 1 |
| | Motor-Main, 50HP 460V 3PH 60HZ, Type R52E, Frame 326T, PRM 1800 | | 1 |
| | Motor-Aux, 10 HPM; 125V DC; Frame 219AT | P2190FSS00002000 | 1 |
| | Pump Aux; Cap 137.6 GPM; Discharge Pressure 40 PSI | | 1 |
| | Relief Valve Aux; Fulflo; 3"; CI Body; 50-500 Range; Set 050 | AA10F140B | 1 |
| | Back Pressure Control Valve;; CI Body; 1", 37-85 PSI Range Size 3A | 655R-EDR | 1 |
| | Pressure Control Valve; CI Body; 3" 22-47 Range Size 42 | 655-ED | 1 |
| | Level Switch | B15-1E2B-BBB | 1 |

| | | |
|---|--------------------------|---|
| Pressure Switch; 3-10 PSI | 132P48CC6 | 1 |
| Oil Mist Collector; 1 HP 230-460V | E500S | 1 |
| Level Trans | 3051L2AGOMD | 1 |
| Pressure Tran | 3051CG4A22A | 1 |
| Pressure Switch Lift Pump; B2TC3255; Adj Range 13.4-225 BAR | B2T-0049 | 1 |
| Flow Sensor; Range 60-0-60 | SC9-060-10-07 | 1 |
| LCI Cooling Pump | ZLKC-80200/AK ADS 4B4 | 1 |
| LCI Cooling Motor | M2AA200 MLA2 | 1 |
| Conductive Meter | 8225 | 1 |
| Flow Trnsmmitter | 200-1K140HP10 | 1 |
| Temp Ind Controller | 4196B | 1 |
| Heater; 480V, 14KW, 3PH 7-21-50-178PC | 5NNA40J13X | 1 |
| Level Gauge | 5RMW7 | 1 |
| Pressure Switch; 20-80 PSI | 132P49CC6 | 1 |
| Flow MeterRange 0-50 | MN-ASF 50GM-12F-339V.9 | 1 |
| RMA 351; type 4 | TT 2WU-2200-ST-18.5D-28D | 1 |
| Flow Meter, Range 0-300 | LN-DFS300GM-24F-339V.9 | 1 |
| Flow Meter 0-350 | LN-DFS-300GM-24-339V.9 | 1 |
| Motor Turning Gear; Power 6.3 KW; size 140 | | 1 |
| Lift Pump NENCKI | PMR 14.12/8-15,512F | 1 |
| Lift Pump Motor, 3PH, 15 KW, 1750 Speed | M2BA-160L4 | 1 |

ATTACHMENT 10
LISTING OF TYPICAL CONSUMABLES

| Bldg. # | General Maintenance Items | Part. # | Quantity |
|---|------------------------------|---|----------------------|
| 648 | Desiccant, Gas Dryer | Molecular Sieve, RM-474-1 | 7800 lbs/year |
| | Pre-filter | 74647-65 | 8/year |
| | After Filter | | 8/year |
| | Desiccant, Air Dryer | Silica Gel, RM-451-2 | 4500 lbs/year |
| | DTE Extra Heavy Oil | 55 gal. Drum every 2 months | 6 drums/year |
| | Tribol A-890 | 55 gals every 6 months | 2 drums/year |
| | Steam Turbine Oil | 20 gals per year | 20 gal/year |
| | High Pressure Air Filter | | 6/year |
| | Clark Lubricator | Rupture Discs; Divider Assembly (1), Divider Section (6) | 1, 6 per year |
| | R-134a Calibration Gas | (2) 100%, (2) 40%, (7) 8000ppm, (2) GN2 | 2, 2, 7, 2 |
| | Vacuum Blower | Over Temperature Switches | 6 |
| | Oil Filter | Y10-351-001 | |
| | O2 Sensors | 2 every 6 months | 4/year |
| | R-134a Analyzers | Inlet Filters - 8 every 6 months | 16/year |
| | Pump Diaphragms/Valves | PK050101-T, 8 kits/year | 8/year |
| | Misc. Drive Motor Components | | |
| | 1236 | Lube Oil | |
| Hydraulic Fluid | | | 50 gal |
| Anti Freeze | | | 100 gal |
| Diesil Engine Oil | | | 90 gal |
| Diesil Oil/Fuel Filters | | | 15 |
| Misc. Hydraulic Filters | | | 19 |
| IGV Hydraulic Filters | | | 7 |
| Pitch Hydraulic Filters | | | 5 |
| Fan Bearing Lube Oil Filters | | | 12 |
| Fan Bearing Demister Filters | | | 13 |
| Fan Bearing Lift Pump Filters | | | 1 |
| Main Lube Oil Pump Filters | | | 4 |
| Main Lube Lift Pump Filters | | | 4 |
| General Purpose Grease | | | 10 tubes |
| Spray Paint | | | 6 cases |
| Spare Parts..ie, pressure switches, seal kits, valve seats, etc. | | | |
| Oil Transfer Cart Filters | | | 4 |
| Disposal Coveralls | | 6 cases | |
| Paper Towels | | 24 cases | |
| 1247E | Filters for each Dryer | | 12 |
| | 2" CPV Limitorque Valves | | 2 |
| | Repair Parts for CPV Valves | | |
| | Tribol 890 Oil | | 10 (55 gal drums) |
| | DTE Extra Heavy | | 15 (5 gal) |
| | Activated Aluminum | | 50 (100# bag) |
| | Relief Valves | | |
| | Filers for Oil Skimmer | | 40 |
| | Lubricator Pumps | | 5 |
| | Rings and Springs for Valves | | |
| Wiper Rings | | 1 set | |

| | | |
|----------------|--|-----------------------|
| | Water Pumps for Skimmer Mobile 1250 Oil | 6 2 (55 gal drums) |
| 1265 & 1277 | Methane Compressors (2) Gaskets Material Coalescent Filters 55 Gallon Drum Misc. Supplies Nitrogen Compressors Compressor #1 Oil Compressor #2 Oil Hydrogen Compressor Oil, Filters, Separators | |

ATTACHMENT 11

GOVERNMENT-ESTIMATED STAFFING AND POSITION QUALIFICATIONS
(DIRECT LABOR ONLY)

GOVERNMENT-ESTIMATED STAFFING AND POSITION QUALIFICATIONS
(DIRECT LABOR ONLY)

RESEARCH EQUIPMENT OPERATIONS SERVICES (REOS)

| <u>ITEM NO.</u> | <u>JOB TITLE</u> | <u>NUMBER OF POSITIONS</u> | | |
|-----------------|-------------------------------------|----------------------------|---------------|---------------|
| | | <u>CLIN 1</u> | <u>CLIN 2</u> | <u>CLIN 3</u> |
| | P = Professional | | | |
| P 1. | Engineer/Technical Manager | | | 1 |
| P 2. | Technical Information Specialist | | | 1 |
| 3. | Foreman/Technical Management | 1 | | |
| 4. | Senior Technician/Drive Control | | 7 | |
| 5. | Senior Technician/Fluids | 10 | | |
| 6. | Senior Technician/Wind Tunnel | | | 9 |
| 7. | Journeyman Technician/Drive Control | | 5 | |
| 8. | Journeyman Technician/Fluids | 11-1/2 | | |
| 9. | Journeyman Technician/Wind Tunnel | | | 6 |
| 10. | Designer | | | 1 |
| 11. | Drafter | | | 1 |
| P 12. | Structural Analyst | | | 1 |
| | TOTALS | 22-1/2 | 12 | 20 |

This attachment summarizes the Government estimated staffing requirements for the REOS contract. The attachment also includes the position qualifications that identify approximate educational and skill requirements.

NOTE: There is no correlation between the position levels listed herein and the levels described in the Register of Wage Determinations and Fringe Benefits (Exhibit D).

Item 1.

JOB TITLE: Engineer/Technical Manager

ESTIMATED EFFORT: One (1) Position

QUALIFICATIONS:

1. Bachelor of Science degree in engineering, physics or a related field from an accredited educational institution.
2. Ten (10) years experience in mechanical, electromechanical and fluid systems operations and testing. Experienced in wind tunnel systems operations, cryogenic systems, drive systems, and safety related systems.
3. Three (3) years experience managing the efforts of technical service support personnel (15-20). Experienced in coordinating efforts of work staff with other Government and contractor staffs in all phases of wind tunnel operations.

Item 2.

JOB TITLE: Technical Information Specialist

ESTIMATED EFFORT: One (1) Position

QUALIFICATIONS:

1. High School Diploma or equivalent.
2. Three (3) years experience in setting up and maintaining a technical library. Experience Should include tracking and maintaining process and facility databases, distributing and retrieving documents, and receiving and cataloging technical publications via electronic and hard copy means.
3. Working knowledge of Configuration Control Process applied to technical drawings and documentation.

Item 3.

JOB TITLE: Foreman/Technical Management

ESTIMATED EFFORT: One (1) Position

QUALIFICATIONS:

1. High school diploma or equivalent.
2. Graduate from an accredited apprentice school, technical institute or a technically relevant class "A" military service school or equivalent combination of experience and education.

4. Four (4) years general experience in the operation, troubleshooting and routine maintenance of mechanical, pneumatic, electro-mechanical/pneumatic, hydraulic and other related equipment used in the production, reclamation, transfer and storage of high-pressure fluids and gases.
5. Additional two (2) years specialized experience in performing technical work in fluid and gaseous system problem diagnosis, minor corrective repair, parts rebuild and/or replacement of hardware in systems which handle exotic gases, high energy fuels, high pressures and extreme temperature environments. Support of LaRC research at this level involves systems operations and performance verification requiring an in-depth knowledge of the functionality and interactions of each component and subsystem.
6. Two (2) years experience in supervising technical support personnel performing work listed in items 3 and 4.

Item 4.

JOB TITLE: Senior Technician/Drive Control

ESTIMATED EFFORT: Seven (7) Positions

QUALIFICATIONS:

1. High school diploma or equivalent.
2. Graduate from an accredited apprentice school, technical institute or a technically relevant class "A" military service school or equivalent combination of experience and education.
3. Four (4) years general experience in the operation, troubleshooting and routine maintenance of large (up to 13,800 volts) electrical motors and generators and other related equipment used to provide power to large rotating shaft drive systems as typically found in closed circuit, continuous flow wind tunnels.
4. Additional two (2) years specialized experience in performing technical work in electrical drive systems problem diagnosis, minor corrective repair, parts rebuild and/or replacement of hardware in electrical systems which provide power to large rotating shaft drives as typically found in closed circuit, continuous flow wind tunnels. Support of LaRC research at this level involves systems operations and performance verification requiring an in-depth knowledge of the functionality and interactions of each component and subsystem. One position will serve as a working lead with basic Foreman/Technical Management responsibilities.

Item 5.

JOB TITLE: Senior Technician/Fluids

ESTIMATED EFFORT: Ten (10) Positions

QUALIFICATIONS:

1. High school diploma or equivalent.
2. Graduate from an accredited apprentice school, technical institute or a technically relevant class "A" military service school or equivalent combination of experience and education.
3. Four (4) years general experience in the operation, troubleshooting and routine maintenance of mechanical, pneumatic, electro-mechanical/pneumatic, hydraulic and other related equipment used in the production, reclamation, transfer and storage of high-pressure fluids and gases.
4. Additional two (2) years specialized experience in performing technical work in fluid and gaseous system problem diagnosis, minor corrective repair, parts rebuild and/or replacement of hardware in systems which handle exotic gases, high energy fuels, high pressures and extreme temperature environments. Support of LaRC research at this level involves systems operations and performance verification requiring an in-depth knowledge of the functionality and interactions of each component and subsystem.

Item 6.

JOB TITLE: Senior Technician/Wind Tunnel

ESTIMATED EFFORT: Nine (9) Positions

QUALIFICATIONS:

1. High school diploma or equivalent.
2. Graduate from an accredited apprentice school, technical institute or a technically relevant class "A" military service school or equivalent combination of experience and education.
3. Four (4) years general experience in the operation, troubleshooting and routine maintenance of mechanical, pneumatic, electro-mechanical/pneumatic, hydraulic and electronic equipment used in wind tunnel test operations.
4. Additional four (4) years specialized experience in performing technical work in fluid and instrumentation systems problem diagnosis and minor corrective repair. Support of LaRC research at this level involves systems operations and performance verification requiring an in-depth knowledge of the functionality and interactions of each component and subsystem in wind tunnel operations. One position will serve collateral duties with basic leader/technical management responsibilities on second shift.

Item 7.

JOB TITLE: Journeyman Technician/Drive Control

ESTIMATED EFFORT: Five (5) Positions

QUALIFICATIONS:

1. High school diploma or equivalent.
2. Graduate from an accredited apprentice school, technical institute or a technically relevant class "A" military service school or equivalent combination of experience and education.
3. Four (4) years general experience in the operation, troubleshooting and routine maintenance of large (up to 13,800 volts) electrical motors and generators and other related equipment used to provide power to large rotating shaft drive systems as typically found in closed circuit, continuous flow wind tunnels.

Item 8.

JOB TITLE: Journeyman Technician/Fluids

ESTIMATED EFFORT: Eleven and one-half (11-1/2) Positions

QUALIFICATIONS:

1. High school diploma or equivalent.
2. Graduate from an accredited apprentice school, technical institute or a technically relevant class "A" military service school or equivalent combination of experience and education.
3. Four (4) years general experience in the operation, troubleshooting and routine maintenance of mechanical, pneumatic, electro-mechanical/pneumatic, hydraulic and other related equipment used in the production, reclamation, transfer and storage of high-pressure fluids and gases.

Item 9.

JOB TITLE: Journeyman Technician/Wind Tunnel

ESTIMATED EFFORT: Six (6) Positions

QUALIFICATIONS:

1. High school diploma or equivalent.
2. Graduate from an accredited apprentice school, technical institute or a technically relevant class "A" military service school or equivalent combination of experience and education.

3. Four (4) years general experience in the operation, troubleshooting and routine maintenance of mechanical, pneumatic, electro-mechanical/pneumatic, hydraulic and electronic equipment used in wind tunnel test operations.

Item 10.

JOB TITLE: Designer

ESTIMATED EFFORT: One (1) Position

QUALIFICATIONS:

1. Bachelor's Degree in Mechanical Engineering or 10 years experience in mechanical design.
2. Ability to translate engineering roughs into finished designs ready for fabrication.
3. In-depth knowledge of Configuration Control Process applied to technical drawings and documentation.
4. Working knowledge of the properties of materials at cryogenic temperatures.
5. Working knowledge of maintaining a technical library including electronic cataloging and retrieval skills.

Item 11.

JOB TITLE: Drafter

ESTIMATED EFFORT: One (1) Position

QUALIFICATIONS:

1. Associate's Degree in Drafting or equivalent technical training.
2. Four (4) years experience in the layout and detail drawing of mechanical and electrical equipment.
3. Knowledge of Configuration Control Process applied to technical drawings and documentation.
4. Working knowledge of maintaining a technical library including electronic cataloging and retrieval skills.

Item 12.

JOB TITLE: Structural Analyst

ESTIMATED EFFORT: One (1) Position

QUALIFICATIONS:

1. Master's Degree in Mechanical Engineering, Aerospace Engineering or Engineering Mechanics from an accredited educational institution.
2. Ten (10) years experience in performing structural analyses. Experience should include detailed analyses of stresses (static, dynamic and thermal); finite element; flutter; fatigue; fracture mechanics; deformation; vibration; and ability to use modern structural analysis/finite element software tools.
 - a. Five (5) years experience applicable to wind tunnel models and associated hardware at elevated pressures and cryogenic test environment.
 - b. Experience in providing wind tunnel model protection system test limits for elevated pressure and cryogenic test environments.

ATTACHMENT 12
DRAFT RFP QUESTIONS AND ANSWERS

**Questions and Comments Regarding DRFP for Research Equipment Operations Services (REOS)
Procurement – Solicitation No. 1-039-GH.0981**

Q(1). Sections L.18.D and M.3.A instruct offerors to propose approaches in "each area", "each of the major areas", and "the various areas" under the SOW. Please define the SOW areas.

A(1). The intent of the RFP is to require approaches for "every" area of the SOW (Section C of the RFP). The wording in the RFP final version will be changed accordingly.

Q(2). Paragraph C.3.1.1 requires that the air distribution system provide continuous acceptable pressure at no greater than -50 degrees F dewpoint. Historically, the standard has been -40. -50 would be difficult to maintain continuously. Currently it takes the dryer 7.5 hours to reactivate the drying towers. We are currently able to maintain the -40 standard throughout that 7.5 hour period. If a -50 standard were required, we would have to reduce hours of operation; we would stop operation when the dewpoint fell below -50 and would wait until the 7.5 hour reactivation cycle was complete. Please confirm that -50 dewpoint is the standard you will require.

A(2). The requirement for the air distribution system as stated is too stringent; therefore, the requirement in the RFP will be changed to -40 degrees F dewpoint.

Q(3). Section H.8 states that contractor employees will be required to comply with LaRC's ISO 9001 Management System when implemented. When will LaRC's ISO 9001 system be implemented?

A(3). The intent of this requirement is for contractor employees to comply with ISO 9002, not 9001, at the time of LaRC ISO registration (currently scheduled for October 1, 1999).

Q(4). Various sections of the RFP refer to the on-site contract manager and on-site office space. However, Section L.18.E.1.e.6 requires that a copy of the lease agreement be provided if a contractor is leasing its facility. Does the government intend to provide office space for the contract manager and any proposed direct project administration staff? If so, where will this space be located? Does Section H.11, paragraph C apply to on-site administration personnel?

A(4). Work area space will only be provided for the direct labor positions included in Attachment 11 of the RFP. Contractor management and administrative personnel outside of those positions in Attachment 11 will require off-center office space. The requirement for uniforms has been deleted.

Q(5). Section 4.3, third paragraph references "long lead times". Please define "long lead times".

A(5). "Long lead times" vary from facility to facility. Since the criticality of being down for the compressor station for instance is higher (center-wide effect) than that of other facilities, this criteria is different across the facilities serviced by this contract.

Q(6). Section L.18.E.1.e.5 states that the offeror should assume \$750,000 annually for consumable materials and repair part costs related to performing SOW Section 4.0. This section also directs the offeror to use \$300,000 each for CLIN's 1 and 3, and \$250,000 for CLIN 2. It is unclear whether this means to assume a total of \$1,600,000 annually or that the \$750,000 consists of \$300,000 each for CLIN's 1 and 3 and \$250,000 for CLIN 2 (which totals \$850,000). Please clarify.

A(6). The total allocation should be as stated "\$750,000". The allocation for CLIN 2 will be changed in the final RFP to \$150,000.

Q(7). The projected RFP release date and proposal due date is very ambitious based on SOW uncertainty and SDB position. Will you allow for a 45 day proposal response time to allow bidders to intelligently respond to SDB/SOW changes as well as adapt teaming arrangements to any changes?

A(7). We will allow six weeks for proposals to be submitted.

Q(8). The DRFP references hydrostatic testing and certification of pressure vessels. What type(s) of pressure vessels are these and what is the REOS contractor's involvement/requirements?

A(8). The range of pressure vessels spans everything from pipes to large fluid containers however the contractor's responsibility is not to certify the vessels but to prepare them for inspection (remove paint from welds etc.) and to assist in the performance of the testing. NASA LaRC provides an inspector for purposes of conducting the actual certification procedure.

Q(9). The requirements of Section C, 3.3.3 Engineering Services, paragraphs 3.3.3.1 and 3.3.3.2 identify tasks that should be performed by a Structural Analyst. Attachment 11 does not account for this position in the Government-Estimated Staffing and Position Qualifications for CLIN 3. Should Attachment 11 include an Engineering position with Structural Analyst qualifications?

A(9). Attachment 11 and the other affected parts of the RFP have been revised to include the position of Structural Analyst.

Q(10). The requirements of Section C, 3.3.3 Engineering Services, paragraph 3.3.3.3 and Section C, 3.3.5 Configuration Control, paragraph 3.3.5.2 identify tasks to be performed by Design/Documentation personnel. Attachment 11 does not account for this in the Government Estimated Staffing and Position Qualifications for CLIN 3. Should Attachment 11 include Design/Documentation positions?

A(10). Attachment 11 and the other affected parts of the RFP have been revised to include the positions of Designer and Drafter with the Configuration Control capability required by each job description.

Q(11). In Section C, 3.3.1 NTF Operations, paragraph 3.3.1.3 references two required "on-site" activities for the "Contractor's on-site Manager". At the pre-proposal conference it was stated that the Contract Manager and non-direct labor work force would be located off-site. In the interest of serving NASA and the contractor's work force, it seems appropriate that the Contract Manager and non-direct labor work force should be co-located with the direct labor work force, which will be located entirely on-site. An "on-site" Contract Manager and staff can provide significant benefits to NASA in the execution and management of the contract. Please consider providing office space on-site for the Contract Manager and administrative staff.

A(11). The "Contractor's on-site manager" position mentioned in paragraph 3.3.1.3 anticipated the technical management of the NTF activities being performed by personnel other than the Contract Manager. While the merits of having an on-site Contract Manager and administrative staff are many, currently, and for the purposes of responding to the RFP, there is not space allocated for these positions.

Q(12). Section C, 3.3.6 Storage/Inventory, paragraph 3.3.6.3 requires that the Contractor shall be responsible for the stocking of consumables for the NTF. Also, Section C, 4.3 Procurement of Parts and Consumables states that the Contractor shall provide all consumables and parts as required with approval.

Significant cost savings to LaRC can be achieved by allowing access to the LaRC Stock stores to cover stocked consumables (e.g., pens, pencils, paper, ear plugs, safety glasses, glass cleaner, paper wipes). The costs of these consumables are lower when purchased by the Government through mass GSA acquisitions than when purchased in small quantities by a contractor.

Is it correct that supplies from LaRC Stores Stock are NOT AVAILABLE as stated in Section G.4, List of Installation-Accountable Property and Services, paragraph (c)? If so, please reconsider this in light of the above discussion.

A(12). The LaRC philosophy of providing stock/inventory has changed significantly in recent years. Items such as those presented as examples in this question are no longer stocked. As a result, the contractor will be required to provide consumables as listed in the SOW. G.4 has been changed accordingly.

Q(13). Within 6 months of the contract award, the Contractor is required to warrant Y2K compliance and provide documentation that all information technology equipment under this contract is Y2K compliant (See Section H.7). To warrant a successful Y2K transition in only 6 months on unidentified information technology equipment would be nearly impossible while maintaining operations.

Will the contractor assume responsibility for Y2K compliance of information technology equipment already in place at LaRC at the time of contract award? If so, can LaRC provide a current listing of information technology equipment under this contract that needs to be upgraded or replaced to assure Y2K compliance? This list will facilitate the documentation of Y2K compliance and the necessary purchases.

Skills identified in Attachment 11 do not necessarily provide capabilities to satisfy Y2K compliance as required by H.7. As necessary, will the costs associated with satisfying this requirement be borne by the government?

Also, how does this requirement mesh with LaRC's existing contract with CSC to identify Y2K compliance problems at LaRC for software, hardware, etc.?

A(13). The Y2K requirement in Section H.7 is a general requirement of all current government contracts. The REOS contract will require operation and input to information technology equipment; however, the maintenance of this equipment is not in the scope of the REOS contract and is the responsibility of other contractors. Therefore, it is anticipated that Section H.7 will have negligible impact on the performance of contract requirements.

Q(14). Section C, 4.0 Routine Maintenance and Corrective Repairs, paragraph 4.1, subparagraph 2 references "hydrostatic testing of pressure vessels". What are the sizes and types of pressure vessels referenced and where is the hydrostatic pressure testing to be performed?

A(14). "Hydrostatic testing of pressure vessels" is not a requirement of this contract. The contractor will be required to support the certification processes by cleaning and preparing weld joints, and operating equipment and systems. Paragraph 4.1 of the SOW has been modified to clarify these requirements.

Q(15). Can the Uniforms as mentioned in Section H.11, paragraph C, be considered as optional? All REOS employees will interact with government employees and uniforms will detract from the "team" spirit. Not requiring uniforms also will reduce the overall cost of the contract to the Government.

A(15). Section H.11, paragraph C (Uniforms) no longer applies to this procurement; paragraph C has been deleted in the final version of the RFP.

Q(16). Subsection L.18, D.1.a.(1) identifies April 1, 1999 as the assumed award date. The REOS Contract Development schedule presented at the Pre-proposal Conference identifies May 3, 1999 as the planned award date. A May 3, 1999 award date allows for less than 30 days for contract phase-in. This period may be insufficient to ensure that the best interest of the employees and NASA are served. Based on the issues associated with the phase-in of this contract, please consider extending the phase-in period to 45 - 60 days. In addition, for proposal purposes please clarify in Section L.18.D.1.a.(1) the assumed date of contract award and start.

A(16). The RFP has been changed to reflect an effective date of September 1, 1999. Therefore a phase-in period of greater than 60 days is anticipated.

Q(17). Section L.18.E.1.e.(2) states that the "required direct productive labor hours were derived by multiplying the positions for each CLIN set forth in Attachment 11, Government-Specified Staffing by the Government's estimated productive man-year". Attachment 11 is entitled, Government-Estimated Staffing and Position Qualifications and states that the attachment is a "summary of the Government's estimated labor staffing requirements" and that the "position descriptions identify approximate skill requirements and are included to assist offerors in the preparation of their proposals". Are offerors allowed to deviate from the Government-Estimated Staffing identified in Attachment 11 (e.g., propose a different number of positions for a given job title

or propose a job title not identified in Attachment 11)? If so, what are the Government's requirements, if any, for offerors to provide justification for proposed deviations?

A(17). The Government-estimated staffing in Attachment 11 is provided for informational purposes only and is not restrictive for proposal purposes. Offerors should propose the staff that is optimum for their proposed approach to contract performance; however, the proposed hours must equate to the total level-of-effort specified in the table at Provision L.17.E.1.e.(2). Justification should be commensurate with the proposed deviation and fully supported in the technical proposal.

Q(18). It is stated in Section B.1, CLIN 3 that support of improvements to NTF processes and the facility will be initiated by task requests. Is it correct to assume that such task requests will be funded separate and apart from the level-of-effort given in B.2.A?

A(18). No, it is anticipated that Task/Test Requests (TTR's) will be performed by the direct productive labor positions listed in Attachment 11 and will be within the level-of-effort specified in B.2 and H.15.

ATTACHMENT 13

PRESOLICITATION CONFERENCE – LIST OF ATTENDEES/VIEWGRAPHS

NOTE: A pre-solicitation conference was held on January 6, 1999. Attachment 13 includes the attendees list and most of the viewgraphs that were presented at the conference. Some of the viewgraphs included photographs and schematics that could not be provided electronically. Offerors that desire hard copies of these viewgraphs should contact the Contract Specialist identified in Section L, Provision L.8.

REOS PREPROPOSAL CONFERENCE 1/6/99

| <u>NAME</u> | <u>COMPANY AFFILIATION</u> | <u>PHONE #</u> |
|------------------|-----------------------------------|-----------------------|
| Tom Holt | Aero Systems Engineering | (757) 865-6371 – X201 |
| Bob Dinkins | Aero Systems Engineering | (757) 865-6371 – X200 |
| Tim Schuler | Sierra Lobo, Inc. | (440) 891-9128 |
| Marian Felder | Sierra Lobo, Inc. | (440) 891-9128 |
| Hermant Mainthia | Mainthia Technologies, Inc. (MTI) | (440) 816-0202 |
| Stan Cole | NASA | (757) 864-1267 |
| Todd Lacks | NASA | (757) 864-2477 |
| Dave Jones | NASA | (757) 864-2421 |
| Bob Hedgepeth | NASA | (757) 864-8265 |
| Richard White | Vigyan | (757) 865-1400 |
| Mike DiDiero | Veridian/Calspan | (716) 631-6871 |
| Cap Catalanotto | Veridian/Calspan | (757) 631-6812 |
| Lynn Bobbitt | Veridian/Calspan | (757) 631-5145 |
| Chuck Whitley | Veridian/Calspan | (757) 631-5143 |
| Allen Kilgore | Veridian/Calspan | (757) 631-5033 |
| Dan McGowan | DTSV | (757) 864-4932 |
| Ginger Smith | DTSV | (757) 873-0725 |
| Libby David | DTSV | (757) 873-0725 |

REOS PREPRPOSAL CONFERENCE 1/6/99

| <u>NAME</u> | <u>COMPANY AFFILIATION</u> | <u>PHONE #</u> |
|----------------|----------------------------|----------------|
| Jerry Nichols | NASA | (757) 864-4577 |
| David Pierpont | NASA | (757) 864-6305 |
| Randy Manning | NASA | (757) 864-6074 |
| Vernon Vann | LaRC – NASA | (757) 864-2457 |
| Boyce Lavender | LaRC – NASA | (757) 864-6293 |

PREPROPOSAL CONFERENCE

SOLICITATION 1-039-GH.0981

NATIONAL AERONAUTICS & SPACE ADMINISTRATION

LANGLEY RESEARCH CENTER

JANUARY 6, 1999

SOLICITATION 1-039-GH.0981 ²³⁷
RESEARCH EQUIPMENT OPERATIONS SERVICES

**PREPROPOSAL CONFERENCE
AGENDA**

- | | | |
|--|---------------------|------------------------------|
| • INTRODUCTION & PROJECTED SCHEDULE | HEDGEPEETH | 9:30 - 9:45 |
| • SOURCE EVALUATION PROCESS | LACKS/VANN | 9:45 - 10:00 |
| • NTF & DRIVE CONTROL TOUR | BOYLES & NICHOLS | 11:00 -11:30 10:30 -10:40 |
| • BREAK | | 10:30 - 10:45 |
| • TDT TOUR | COLE | 10:45 - 11:45 |
| • LUNCH | | 11:45 - 12:45 |
| • 8 FT HHT & COMPRESSOR STATION | HEARD & PIERPONT | 12:45 - 1:30 |
| • TECHNICAL EFFORT SUMMARY | LAVENDER | 1:30 - 1:45 |
| • QUESTIONS & ANSWERS | | 10:40 -11:00 |

SOLICITATION 1-139-GH.0981

INTRODUCTION

- ALL FACILITIES AND ORGANIZATIONS AT LARC RECEIVE SERVICES UNDER THIS PROCUREMENT.
- SKILLS REQUIRED RANGE FROM TECHNICAL INFORMATION SPECIALIST TO ENGINEER/MANAGER.
- RESULTING CONTRACT WILL BE EXPECTED TO FEATURE A HIGH DEGREE OF FLEXIBILITY AND RESPONSIVENESS.
- EFFORT IS DEEMED “ESSENTIAL” BY ALL LEVELS OF MANAGEMENT.

SOLICITATION 1-039-GH. 0981

GENERAL GUIDANCE

- COPIES OF VIEWGRAPHS AND AN ATTENDANCE LIST WILL BE PROVIDED WITH THE FINAL RFP.
- ALL REVISIONS TO THE RFP WILL BE IN WRITING; NOTHING SAID HERE TODAY SHOULD BE CONSTRUED AS REVISION UNLESS SUBSEQUENTLY CONFIRMED IN THE FINAL RFP OR BY WRITTEN AMENDMENT.
- WRITTEN QUESTIONS TO BE COLLECTED DURING THE BREAK AND PREVIOUSLY SUBMITTED QUESTIONS WILL BE ADDRESSED DURING THE Q&A PERIOD THIS AFTERNOON (IF POSSIBLE)
- AFTER THE RFP IS RELEASED, ALL QUESTIONS MUST BE SUBMITTED TO MR. LACKS.

SOLICITATION 1-039-GH.0981

ESTIMATED CONTRACT STATISTICS

DIVISION OF EFFORT

- CLIN 1 – FLUID SYSTEMS 45%
- CLIN 2 – DRIVE CONTROLS 21%
- CLIN 3 – NTF SUPPORT 34%

TOTAL ESTIMATED LEVEL OF EFFORT – 56.5 MAN YEARS/YR.

OPERATION

241

3.0

Fluid Systems
Air, LN₂, LOX, R134A,
Silane, H₂, N₂, He, etc.

3.1

Drive Controls

3.2

NTF Support

3.3

- Central Compressed Air &
 - Distribution, B 1247-E
- H₂ Heavy Gas Reclamation Systems;
 - B 648, 1247B
- N₂, CH₄ Compressor &
 - Distribution; B 1265, 1277
- LN₂ Delivery System (Truck)
- He, LN₂, Silane, LOX, H₂ Off-loading;
 - B 1221, 1242, 1247, 1265, 1277

- Unitary, B 1251
- Drive Control, B 1241
- TDT, B 648
- Freq. Converter, B 1235
- Power Dispatching, B 1241

• NTF OPS

- a. Process Controls
- b. Drive/Mach System
- c. Model Data Systems
- d. O₂ Monitoring
- e. Card Key
- NTF-Model Prep Bays
- NTF Special LN₂ OPS, 1236
- NTF Information Technology
 - a. Financial/ Technical Status
 - b. Library & Configuration Mgmt.
- Engineering Services
 - a. Model Integrity
- Safety
- Configuration Control
- Storage/Inventory

REOS PROCUREMENT PROCESS

**R. TODD LACKS
OFFICE OF PROCUREMENT
NASA LANGLEY RESEARCH CENTER**

TOPICS OF DISCUSSION

- Introduction of (CO) and Source Evaluation Committee (SEC)
- Formal Communications with Offerors
- Source Evaluation Process
- Award Without Discussions and FAR Procedure

INTRODUCTIONS

- **Contracting Officer:** Dave Jones, Office of Procurement
- **Source Evaluation Committee Voting Members:**
 - Robert K. Hedgepeth (Chairperson), Experimental Testing Technology Division
 - Stanley R. Cole, Structures Division
 - Boyce E. Lavender, Aero- and Gas-Dynamics Division
 - Todd Lacks, Office of Procurement

FORMAL COMMUNICATIONS WITH OFFERORS

“Open Door” policy will be in effect until the final RFP is posted – contact will be limited to the following:

- Todd Lacks & Dave Jones, Office of Procurement
- Robert Hedgepeth, Experimental Testing Technology Division

Communications blackout will be invoked at RFP issuance - all communications will be with Contract Specialist

SOURCE EVALUATION PROCESS

Mission Suitability Factor is scored at the subfactor level

Relevant Experience & Past Performance & Cost are evaluated but not scored

- Offerors responsible for REPP submissions
- NASA will make probable cost adjustments as necessary

AWARD WITHOUT DISCUSSIONS

NASA's preferred and intended method of competition is award without discussions

Intent to take exceptions to terms and conditions should be communicated to NASA **BEFORE** offers are due

FAR PROCEDURES

Unlike the old NASA Part 15 procedures, negotiations are not typically conducted following selection

Award will be made based on adequate price competition among initial offers or final proposal revisions (FPR's)

The identities of those firms submitting proposals is **NO LONGER RELEASABLE** under FOIA until **after** selection and award

Key Points to Remember

Single Point of Contact following RFP release

Todd Lacks

e-mail: r.t.lacks@nasa.larc.gov

phone: (757) 864-2477; fax: (757) 864-7709

Award **WITHOUT** discussions is NASA's objective

Key Points to Remember (Cont.)

For the final RFP, offerors should expect to see changes to the method of evaluation for small disadvantaged business participation and to the mission suitability subfactors including the relative weights (Ref. M.4). Also, the SDB percentage goal (15%) is subject to change

Questions and comments regarding draft RFP are due no later than Noon, January 12, 1999

Reform of Affirmative Action in
Federal Procurement
(SDB Contracting)

INTERIM RULES PUBLISHED BY FAR

Council on June 30 and July 1, 1998

- June 30: Price Evaluation Adjustment for SDB's bidding as primes;
- July 1: SDB Participation Program (subcontracting)
 - Evaluation Credit;
 - Monetary Incentive

New SDB Regulations: Who is affected?

- Small Disadvantaged Businesses (SDB's)
- Other Small Businesses (indirectly)
- Large Business Prime Contractors
- The impact is profound, it will affect all of the above

SDB Procurement Mechanisms

- Price evaluation adjustment for SDB's bidding as primes (effective Oct. 1, 1998);
- Evaluation factor available to offers for SDB participation (Jan. 1, 1999); and
- Monetary subcontracting incentives available to contractors upon contract completion for use of SDB's (Jan. 1, 1999)

Price Evaluation Adjustment

- Qualified SDB's will receive a price preference up to 10% on procurements where this approach is mandated by regulation (next slide);
- This will be accomplished by adding up to 10% to the price of bids or offers received from non-SDB's.

Price Evaluation Adjustment

- This mechanism must be used in competitive acquisitions over the simplified acquisition threshold (usually \$100,000) where the SIC code for the prime contract is one which the Dept. of Commerce has authorized the use of preference, except
 - 8(a) acquisitions; and
 - Small business set-asides.

Evaluation factor for SDB participation

- Applies to competitive negotiated acquisitions over \$500,000 or \$1,000,000 in construction (exceptions on next slide);
- Allows credit for subcontractors only in the 2-digit SIC codes authorized by the Dept. of Commerce;
- Requires that all SDB's be certified by SBA.

INTERIM RULE FAR—

Evaluation factor for SDB participation

- Offeror submits targets for SDB participation expressed as dollars and percentages of total contract value;
- Proposal must identify the 2 digit SIC's for each subcontract, and these SIC's must be on the list of authorized SIC codes;
- Contracting Officer has discretion on how much weight to put on SDB participation.

SDB PARTICIPATION PROGRAM

Evaluation Factor Cannot Be Used In:

- Small business set-asides;
- 8(a) acquisitions;
- negotiated acquisitions where the “lowest price technically acceptable” source selection process is used; or
- contracts that will be performed entirely outside of the U.S.

POINTS TO REMEMBER

- For the Evaluation Factor or Subfactor, the Contracting Officer is not limited to 10 percent for SDB Participation.
- Example: If there are 5 Evaluation Factors, including SDB Participation, and if each factor is weighted equally, SDB Participation would then be worth 20 percent of the total evaluation score.

Monetary Subcontracting Incentives

- The Contracting Officers may (not must) provide a monetary incentive up to 10% to prime contractors that exceed their SDB target in the authorized SIC's.
- Example: SDB target is \$1.0 million; the contractor achieves \$1.5 million. The excess is \$500,000; 10 percent of \$500,000 is \$50,000.

POINTS TO REMEMBER

- A large business that receives a contract containing one of the SDB Participation mechanisms (Evaluation Factor/Subfactor or Monetary Subcontracting Incentive) will have two SDB targets or goals:
 - Traditional Subcontracting Goal (subcontracts under all SIC Codes count towards the goal)
 - SDB Participation Target (only those subcontracts in the eligible SIC codes count towards the goal)

POINTS TO REMEMBER

- 8(a) firms are always SDB's
- SDB's are not necessarily 8(a) firms
- PRO-Net (www.sba.gov or pro-net.sba.gov)
 - contains separate fields for 8(a) and SDB certification:
 - Either field is searchable
 - Only SBA can input data into these fields

SDB INTERNET ADDRESSES

- SBA's Home Page: www.sba.gov (includes link to PRO-Net)
- SDB Web Site: www.sba.gov/sdb

RATE STRUCTURE FOR ELECTRICAL POWER

